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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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SEPTEMBER, 1944

Vol. 97, No. 9

Magnesium Fire at Philadelphia Demonstrates Explosiveness of the Molten Metal in Contact with Water (See Story in This Issue).

A CASE - SHEPPERD - MANN PUBLICATION

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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The Publishers

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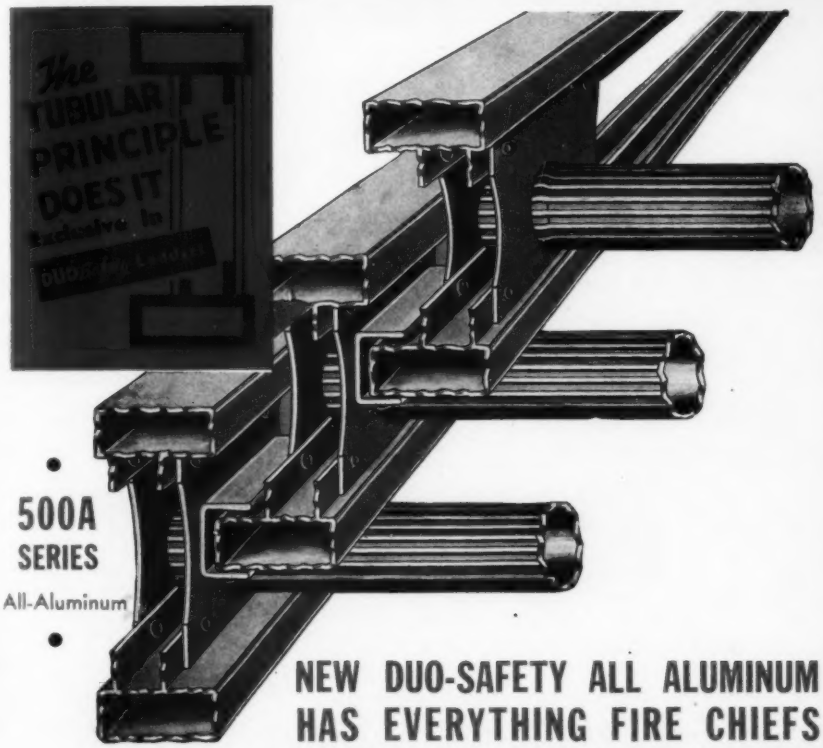

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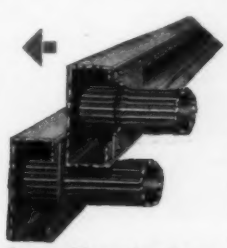

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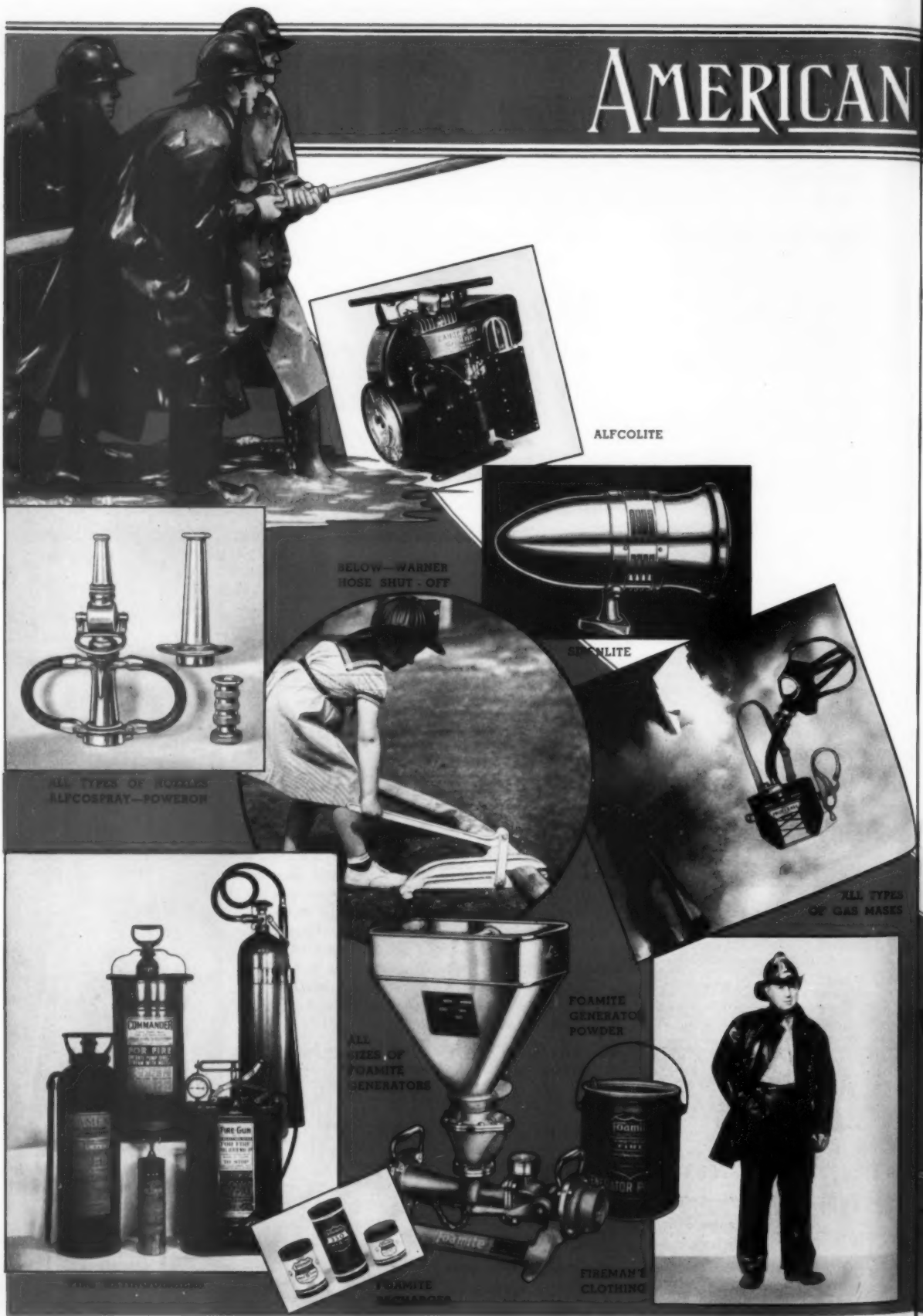

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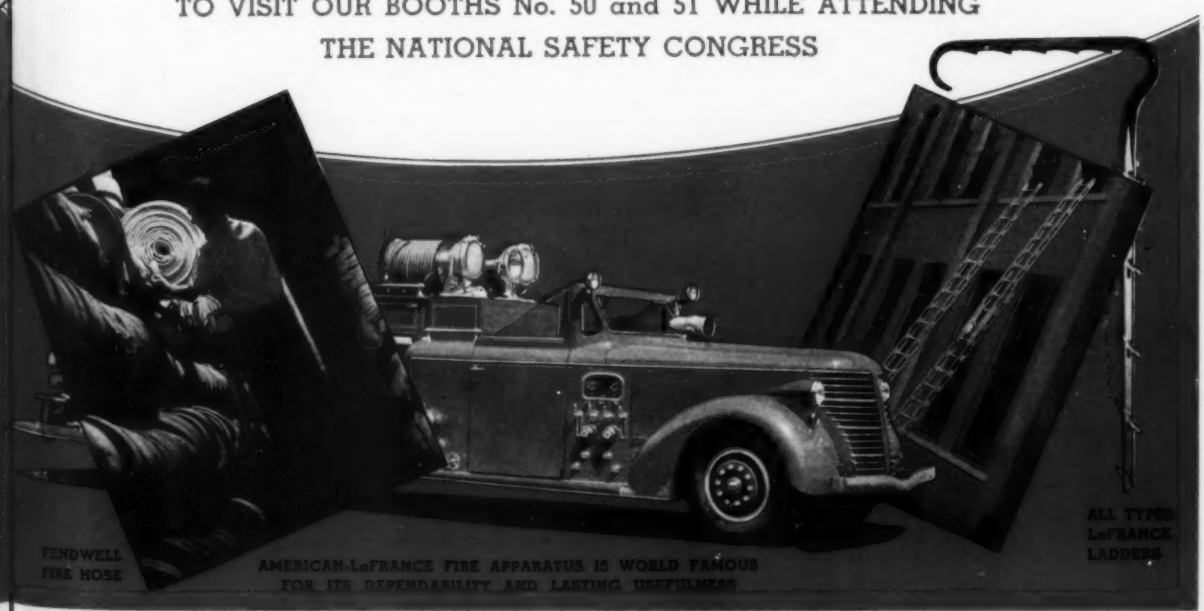
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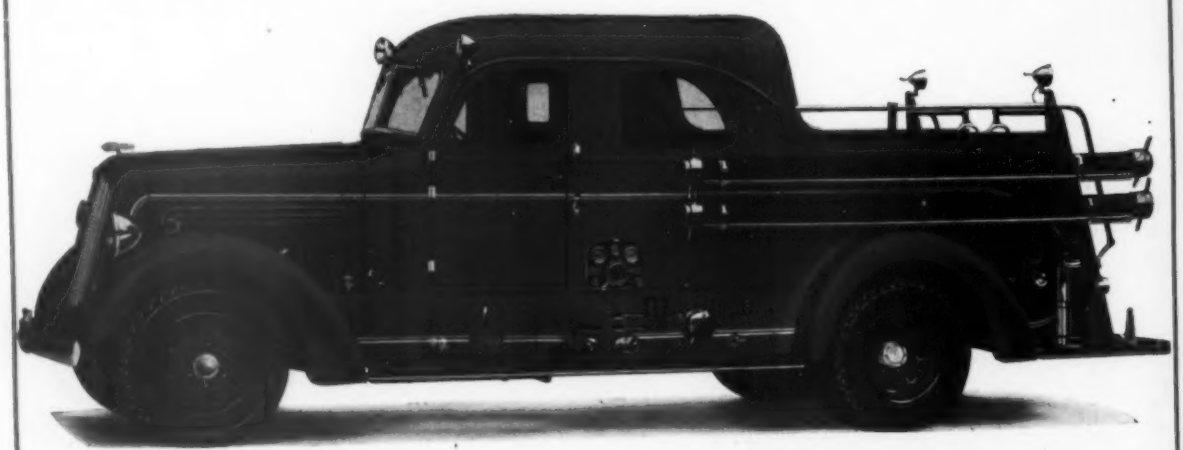

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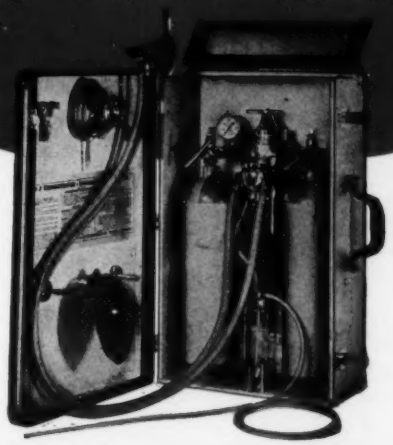

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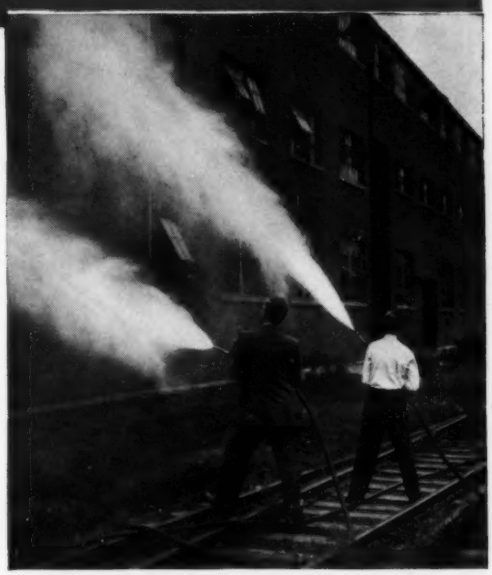

FMC FOG FIRE GUNS IN ACTION! *Man at right is using the Semi or Halfway Fog while man at left has adjusted control to secure the Full Fog Cloud. Main illustration shows carrying power and reach of the fog and is not necessarily an example of fighting fire with fog.*

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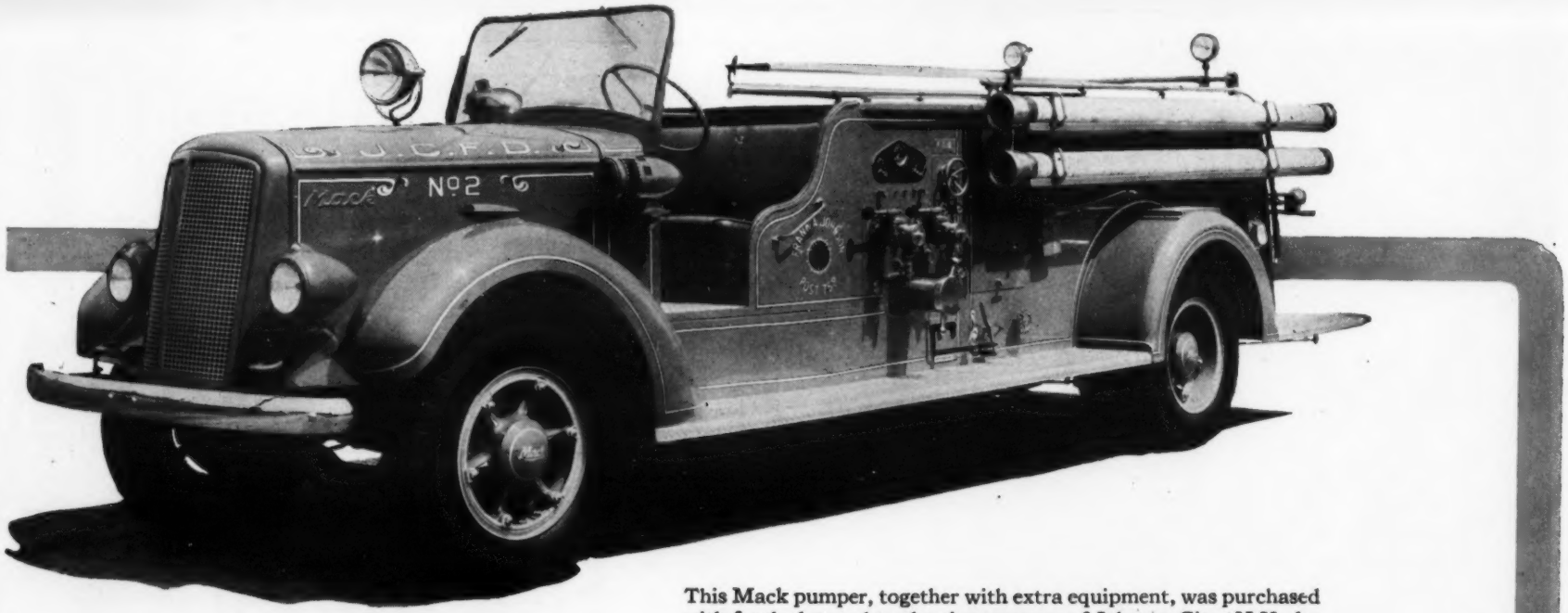

This Mack pumper, together with extra equipment, was purchased with funds donated to the city treasury of Johnson City, N.Y., by the Frank A. Johnson Post Number 758 American Legion Memorial Corporation, Raymond A. McLaughlin President. George B. Roberts is Executive Secretary of the post and James R. Madden is Commander of the post.

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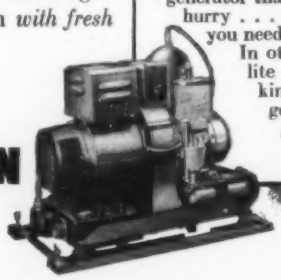

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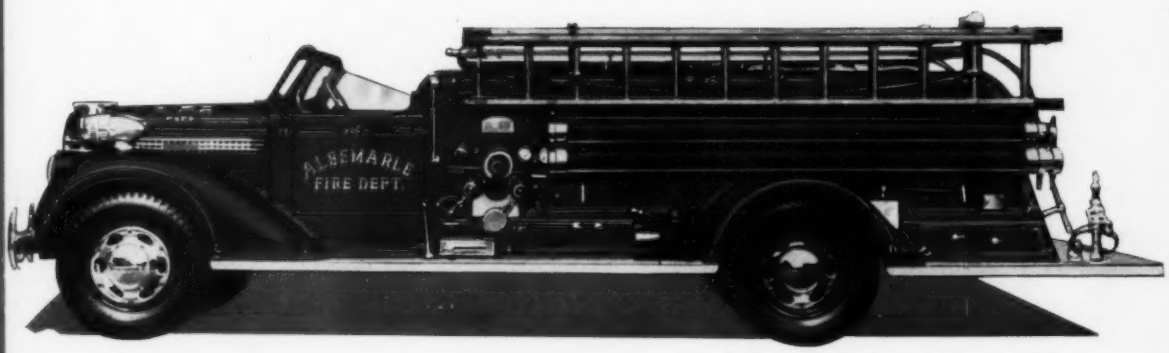

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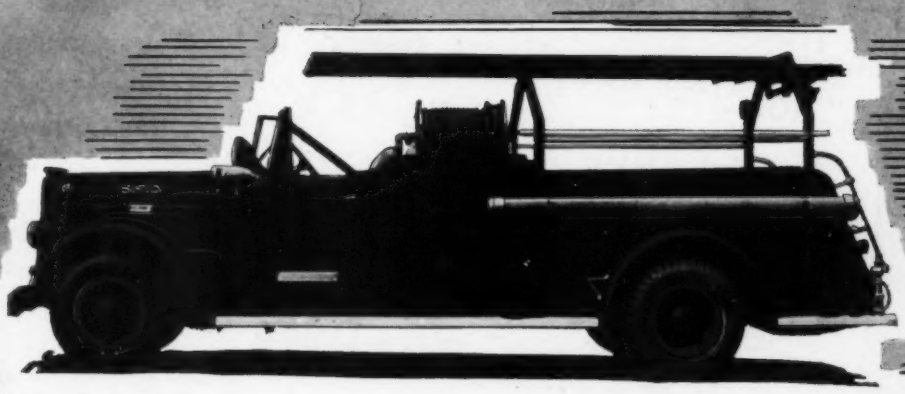

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AND any list of post war requirements should contain the item of additional alarm boxes, underlined in red. There is hardly a community in the country today that hasn't increased in population and building construction. These new developments and many old ones need the protection of alarm boxes. Now is the time to plan for these additional boxes, don't wait until victory is achieved.

The protection afforded local industry and the community in the elimination of waste by fire makes such a system not only indispensable to public safety but a self-paying and profitable municipal investment.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts

SEPTEMBER, 1944

FIRE ENGINEERING

VOL. 97. NO. 9

With the Editor

Fog Nozzle Tests

At the Grand Rapids conference of the International Association of Fire Chiefs a joint committee of the Association and the National Board of Fire Underwriters reported on tests conducted by the Committee in April of this year. Various types of nozzles were employed and were operated through a wide range of pressures.

The series of tests included oil tank fires, gasoline drip tank fires, paint house fires, oil pit fires, and frame house fires.

The houses—ten in number—were 10 x 10 feet with 8 to 9-foot ceilings. Built of wood, with Celotex lining, the houses had a tar paper covering to keep their interiors dry. Kindling wood and excelsior were added to simulate normal combustible contents. Each house was fully opened up on one side, there being only three side walls.

The tests were intended to determine the relative effectiveness of different types of water spray, or fog, delivered by different designs of nozzles at pressures up to 600 pounds per square inch in controlling commonly encountered fires. So far as they went, they were thorough and carefully carried out.

But many of those at the Grand Rapids conference seemed to feel that the tests were such as not to bring out the principal advantages of fog, or spray, nozzles. The fires were too accessible; the entire burning area within each house was in direct range of any kind of stream employed. Flames and smoke left the structure and passed upward, making close approach to the fire possible. Only radiant heat prevented the nozzlemen from advancing right up to the structure.

At such a fire, water delivered in any manner would prove effective in extinguishing the blaze. There was no problem of difficult approach caused by dense, acrid smoke, fumes or pent up heat such as encountered in basement or other interior fires. There was no problem of air supply for the nozzlemen.

Those chiefs who have used fog nozzles on such fires strongly praise them for their ability in cooling the atmosphere, removing pungent elements from smoke, drawing in a supply of fresh air and extinguishing fire with minimum quantities of water.

Thus it would seem that the tests, while good as far as they went, were not sufficiently embracing to demonstrate the major advantages possessed by fog nozzles. Furthermore, the relative values of high and low pressure fogs in applications where fog is recognized as particularly effective still remain unknown.

An excellent start has been made by the tests already carried out. Supplementary tests designed to provide enlightenment on fog nozzle performance on inside fires are in order. It is hoped that such tests may be possible in the not too distant future.

—

Fred Sheppard

I.A.F.C. Holds Seventy-First Annual Conference in Grand Rapids

FIRE ENGINEERING STAFF CORRESPONDENT

THE Seventy First Annual Conference of the International Association of Fire Chiefs was held at the Pantlind Hotel, Grand Rapids, Michigan, August 28 to 30 inclusive, with nearly 700 fire chiefs, apparatus equipment representatives and others—including members of the Armed Forces and the Federal Government—active in fire prevention and fire protection in attendance.

From first to last the keynote was "business." The opening session, Monday, August 28 was given over to the customary opening and memorial ceremonies, the latter being particularly impressive. These were conducted by Dr. E. A. Thompson of the Park Congregational Church, with Chief Daniel Tierney reading the list of the deceased. The memorial ceremony was highlighted by the adoption of a resolution of condolence to Chief and Mrs. Edward C. Palmer, Grand Rapids, on the death of their son, Lieutenant John E. Palmer, who died on the field of battle.

In the interval between Monday morning and afternoon sessions a "no host" luncheon was held ot the Pantlind.

The technical business program got under way with the reading of the paper on *"Spray Nozzle Tests"* by Calvin Lauber, National Board of Fire Underwriters, and the discussion of the tests, held earlier at Elmira, New York, by Chiefs Higgins, Swanson and Tubridy. Motion pictures of the experiments graphically illustrated the points made by the speakers.

Tuesday morning saw the reading of the auditor's report which attested to the excellent financial condition of the Association. The reports of the Divisional Secretaries on the progress made in the Missouri Valley, Southwestern, Southeastern, New England, Eastern, Pacific Coast, Great Lakes and Canadian Divisions were received by vice president Delaney in the chair. These all reflected the considerable progress being made by the Association.

Jay W. Stevens, reporting as Chairman of the Membership Committee, announced that 1500 new members had been enrolled since the last conference. This and other progress of the Association were further elaborated upon by President Art Baker in his president's report.

Post War Planning

The technical sessions resumed with the reading of a paper on *"Post War Planning"* by Chief Selden Allen, Brookline, Massachusetts. Chief Allen stressed the importance of the rehabilitation of the men of the Armed Services and in this connection, to insure jobs, urged large scale programs in public works development, including the fire service. It is expected that about 45 per cent of the cost of projects may be paid by the Government, he said, reminding his hearers that the fire service had been starved during the last depression and the war period and should be the recipient of considerable funds. Among the developments urged by Chief Allen were improvements in water supplies and distribution; better fire alarm communications, including wider use of two-way radio; more modern fire houses, with better living and working conditions for firemen; immediate and future addition of modern fire apparatus and fire fighting equipment; sprinklering of all places of public assembly, and installation of standpipe systems in all tall buildings; more training and educational programs, with drill towers in all fire departments; and revision upward of present standards governing the number of personnel per piece of fire apparatus. Chief Allen quoted freely from the recent IAFC post-war survey to punctuate his remarks.

The reports of committees continued with the President's Advisory Committee, delivered by its Chairman, F. B. Philbrick, President, Gamewell Company. The primary object of the Committee, which consists of representatives of manufacturer sustaining members, is to create more members for the Association. According to Mr. Philbrick, there are 10,000 fire chiefs eligible for membership in the Association and his group has prepared promotional plans to secure and interest members in the IAFC. The first mail piece of the campaign has been distributed with good results. Mr. Philbrick advocates having communities defray membership expenses for their fire chiefs. The work of this Committee drew high praise from President Baker and other officers.

The afternoon sessions included both Committee reports and addresses by guest speakers. Among the latter, Nicholas A. Odum, Fire Protection Section, War Production Board, discussed the subject of *Wartime Priorities*, bringing the Association up-to-date on priorities and the release of fire apparatus and equipment. He paid tribute to the Association and solicited its support in his new post, now that he has taken over the work formerly done by George Cummings, who has left WPB.

Chief G. R. McAlpine, Oklahoma City, Oklahoma, reported on the *Manpower Problems* of the fire service. He presented data to show the urgent need of more men, and of good men, if fire losses are to be held within bounds.

Better Public Relations Urged

"Public Relations" was the topic of the report delivered by I. H. Case, Chairman of the Public Relations Committee. Mr. Case urged the members and the Association to do a better "selling job"; to give the public and civic officials a better understanding of what the fire

Photo by Hugh Walker

Use of Applicator and G-1 Powder Under Pressure at Magnesium Fire Extinguishing Tests.

service and the Association and its members are doing to save life and property. Mr. Case urged the utilization of all mediums of publicity including local newspapers and radio broadcasting, and offered numerous suggestions on their employment.

During the afternoon, representatives of the manufacturers having exhibits in the Auditorium were given time to explain the merits of their products.

Captain C. C. Myers, Chief, of Ordnance Safety and Security Branch, delivered an instructive paper on the *"Organization, Training and Cooperation Which Should Exist Between Federal and Municipal Fire Brigades"*, placing particular emphasis on hazards in munitions plants. Captain Myers counselled more comprehensive mutual aid arrangement between municipal and Federal fire brigades and suggested some steps that might be taken to achieve such ends.

Better Keeping of Loss Records Advocated

Chief Albert Sullivan, San Francisco, California, reporting for Chief John Alderson of Los Angeles, covered the topic, *"Fire Loss Records—Should They Be Kept by the Fire Department and How Should the Loss Be Determined?"*. According to Chief Sullivan the present methods of determining and publishing fire losses and keeping loss records are inaccurate, inadequate, and misleading to the public, and place the fire department in a false position. He advocated that cities keep their own fire losses in their own way and urged the IAFC and other fire service organizations to oppose the publication of loss records.

Fire Service Gets Radio

Chief Roi Woolley, Assistant Editor, FIRE ENGINEERING, Chairman of the Committee on Communications, reported the progress made in securing independent radio frequencies for the fire service. Already the F.C.C. regulations have been revised to permit cities of 150,000 and over to have their own short-wave radio stations; smaller places may avail themselves of it jointly with the police through mutual aid arrangements. Chief Woolley reminded the members of the importance of filing their applications for station licenses without delay. He also paid tribute to the cooperation of the International Municipal Signal Association, members of which have labored jointly with his committee in the interest of better fire service communications.

Fire Chief and Fire Marshal Cooperation

A lucid description of the organization and operation of the Indiana Fire Marshal's Office was given by Clem Smith, State Fire Marshal in the course of which he complimented the Association on making its memberships available to the nation's fire marshals. He stressed the importance of the fire chief and fire marshal working in harmony and submitted examples to show how coordinated effort had produced excellent results, particularly in solving arson cases and in improving fire preventive measures.

Recommended Disposal of OCD Equipment

The topic, *"What About OCD Equipment After the War?"*, was also covered by Chief Woolley in another address. He pointed to the possibility of the $36,000,000 worth of OCD fire fighting equipment being dumped on the market as surplus war material and explained the steps being taken by the Association, jointly with other fire service organizations, to first, determine where and how this equipment is being used and how much of it is not wanted and, secondly, to prepare recommendations for its final disposal so that it will cause the least possible confusion and injury to the fire service. Chief Woolley reviewed the recommendations drafted by a special committee of representatives of foremost fire service organizations, headed by George Booth, National Board of Fire Underwriters, following the Association's recent nationwide survey (reviewed in the August issue of FIRE ENGINEERING.

In conclusion, he introduced Colonel Edward L. White, Chief, Protective Property Division, Office of Civilian Defense, Washington, who thanked the members for their past cooperation with his Office, and assured them of his continued assistance. Colonel White was then presented with a fire badge of the Grand Rapids Fire Department by Chief Edward Palmer as an expression of the Association's appreciation of his interest and aid.

Handling Magnesium Fires

Perhaps the high spot of the entire

Delegates to the Grand Rapids Conference Photographed in Front of the Civic Auditorium.

Photo by Hugh Walker

Chiefs Peter Steinkellner, Milwaukee, Wis.; Frank C. McAuliffe, Chicago Insurance Patrol, and Albert Sullivan, San Francisco, Cal.

conference was the discussion and demonstration of extinguishing magnesium fires, which occupied Wednesday's morning and afternoon sessions.

The discussion in the morning was conducted by A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters with Chiefs Tubridy and Palmer, and Fred Shepperd, Editor, FIRE ENGINEERING participating. This brought out the methods employed at the tests previously conducted at the plant of the Dow Chemical Company, Midland, Michigan and conclusively demonstrated the hazards attendant upon fighting fires in such material with water streams.

The afternoon was devoted to working demonstrations, some of them developing further the tests made at Midland. These experiments, held on the river bank, were observed by a large and interested audience. Here varying quantities of magnesium in different forms, from shavings to large castings, were ignited and the resultant fires fought with different types of extinguishing agents, including G1 powder and water.

In addition to the regular equipment and personnel of the Grand Rapids Fire Department used in the tests, and to cover exposures, there were high pressure, CO^2 and other units on hand, some of which participated in the demontrations.

These tests illustrate the problems such fires create for the fire service and the final conclusions, to be published later, will be eagerly looked for.

The Association formally voiced its appreciation of the cooperation extended by the Dow Chemical Company, the Grand Rapids Fire Department, National Board of Fire Underwriters and all others who contributed in this effort.

Chief Pope Elected President

The concluding sessions of Thursday marked the election of the following officers for the ensuing year: President, Chief Samuel J. Pope, Boston, Mass.; First vice president, Chief C. A. Delaney, Lakewood, Ohio; Second vice president, Chief Frank C. McAuliffe, Chicago Fire Patrol, Chicago, Ill.; Secretary-Treasurer, Chief Daniel B. Tierney, Arlington, Mass.; Reappointed as Executive Secretary, Jay W. Stevens, San Francisco, Cal.

As an interlude in his acceptance address, Chief Pope presented to retiring president Art Baker, a diamond ring, as an expression of appreciation by the Association of the latter's administration.

Cleveland the Next Meeting Place

By unanimous agreement, the invitation of the City of Cleveland, conveyed through Chief Granger, to hold the Seventy Second Annual Conference in that city was accepted. The date will be announced later.

As his first official act, President Pope renamed the same standing committees and chairmen, the only change being that of the President's Advisory Committee, to the "Advisory Committee of the International Association of Fire Chiefs", Mr. Fred Philbrick continuing as Chairman and Ex-president Chief Art Baker being added to the committee membership.

Chief Edward Palmer, this year's Convention Host, and Chief James Granger, Cleveland, Ohio, next year's.

Resolutions Adopted

The following Resolutions were presented by the Resolutions Committee and unanimously adopted:

COOPERATION OF ARMED FORCES

WHEREAS, The fire service of the United States and Canada has received most effective cooperation from the Coast Guard and other branches of the Armed Services of the Nation, during the present world-wide conflict, and

WHEREAS, Such cooperation has brought about control of the abnormal hazards coincidental to the war efforts of the United States and Canada, and

WHEREAS, A commendable *esprit de corps* has been developed between these

(*Continued on page 676*)

Active Members Present at the I. A. F. C. Convention

(All the following are active fire chiefs, unless otherwise listed.)

L. B. Hill, Bessemer, Ala.
Walter Stephen, Monsanto Chem. Co., Anniston, Ala.

George Robinson, Yuma, Ariz.

M. J. Brun, Forth Smith, Ark.
Joseph Carmichael, Little Rock, Ark.
Walter Lisk, Hope, Ark.
Frank Smith, El Dorado, Ark.

Edward Lamb, Ex-Chief, Stanford Univ., San Francisco, Cal.
Thomas Lane, Alameda
O. S. Peterson, Lt. (j. g.) U. S. C. G., in charge of Coast Guard Fire Fighting Forces in San Francisco Bay area
J. W. Stevens, San Francisco, Cal.
Albert Sullivan, San Francisco, Cal.

J. J. Fitzpatrick, Pueblo, Colo.
F. A. Taylor, Colorado Springs, Colo.

William J. Lutz, Ex-Chief, Wilmington, Dela.

M. G. Bennett, Orlando, Fla.
E. F. Beville, Gainesville, Fla.
H. R. Chase, Miami, Fla.
George Hare, Jacksonville, Fla.
C. W. Nesbit, St. Petersburg, Fla.
F. C. Pfaender, Chattahoochee, Fla.

D. W. Brosnan, Albany, Ga.
W. T. McKinney, Rome, Ga.
G. W. Scott, Augusta, Ga.
W. C. Thompson, Athens, Ga.
Max Wiggins, East Point, Ga.

Thomas Blake, Rockford, Ill.
John Craig, State Fire Marshal, Springfield, Ill.
Sam Crow, Decatur, Ill.
Wm. A. Fleege, Lombard, Ill.
Frank Freeman, No. Chicago, Ill.
P. Gauthier, Calumet City, Ill.
Morris Hintt, Elgin, Ill.
A. N. Hofstetter, Evanston, Ill.
George Knol, Cicero, Ill.
Albert Luedeke, Freeport, Ill.
George Mahnke, Chicago Heights, Ill.
Frank McAuliffe, Fire Ins. Patrol, Chicago, Ill.
Anthony Mullaney, Chief Fire Marshal, Chicago, Ill.
Walter Zibble, Wilmette, Ill.

Charles DeVleeschower, South Bend, Ind.
Harry Fulmer, Indianapolis, Ind.
Thomas King, E. Chicago, Ind.
John McCracken, Gary, Ind.
Richard Misner, Elkhart, Ind.
Claude Rouch, Rochester, Ind.
E. C. Schultz, LaPorte, Ind.
Clem Smith, State Fire Marshal, Indianapolis, Ind.
H. E. Williams, Richmond, Ind.
A. J. Zoch, Michigan City, Ind.

Harold Bierman, Muscatine, Ia.
Earl Byers, Belle Plains, Ia.
Wright Hedges, Atlantic, Ia.
E. P. Kohout, Cedar Rapids, Ia.
E. G. Kolb, Boone, Ia.
Charles Kuhl, Sioux City, Ia.
Sam Long, Ames, Ia.
Waldo Merrill, Council Bluffs, Ia.
Harold Nelson, Clinton, Ia.
Charles Slade, Des Moines, Ia.
Ray Tiller, Waterloo, Ia.

Clarence Brown, Wichita, Kans.
William J. Cawker, Topeka, Kans.
Olander Lind, Kansas City, Kans.
Fred Werbe, State Fire Marshal, Topeka, Kans.

John Krusenklaus, Louisville, Ky.
Frank Northcutt, Covington, Ky.

Robert Bogan, Baton Rouge, La.
Arthur Hanson, Westwego, La.
J. A. Hebert, Sr., Plaquemine, La.
Louis Kihneman, Morgan City, La.
Fernand Privat, Rayne, La.
H. E. Roberts, Monroe, La.

Jesse Fisher, Annapolis, Md.
Joseph Giammatteo, Glen Echo, Md.
Irving Johnson, Takoma Park, Md.
J. W. Just, Ex-Chief, College Park, Md.
David Toohey, Cabin John, Md.

Selden R. Allen, Brookline, Mass.
Benjamin L. Chase, Haverhill, Mass.
Harold J. Conron, North Reading, Mass.
William Floyd, Winthrop, Mass.
H. E. Gutheim, Cambridge, Mass.
John McNally, Somerville, Mass.
O. J. Meunier, Southbridge, Mass.
Samuel J. Pope, Boston, Mass.

Richard Salamone, Needham, Mass.
Robert Tappen, Gardner, Mass.
Daniel B. Tierney, Arlington, Mass.

J. O. Aldrich, Belmont, Mich.
Gustav Anselm, Wyandotte, Mich.
F. W. Austin, Otsego, Mich.
Frank Bender, Jr., Saginaw, Mich.
Arthur Brown, Ishpeming, Mich.
R. W. Bystrom, Marquette, Mich.
Ledger Chauvin, Grosse Pointe City, Mich.
J. T. Clark, Milan, Mich.
C. Crossler, Battle Creek, Mich.
George Dansbury, Grosse Pointe Farm, Mich.
R. E. Davison, Ontonagon, Mich.
Don M. Divkerson, Chief, Eloise Hospital, Eloise, Mich.
John Doster, Chief, Battle Creek Township F. D., Battle Creek, Mich.
E. DuBois, Monroe, Mich.
Frank Durbin, Hazel Park
Philip Eckhout, St. Clair Shores, Mich.
Joseph Fifarek, Traverse City, Mich.
Hugh Fisher, Lansing, Mich.
Frank Ford, Highland Park, Mich.
T. Freeland, Big Rapids, Mich.
Henry Goudy, Wayne, Mich.
John Griffin, Hamtramck, Mich.
Ray Hall, Benton Harbor, Mich.
Orie Hand, Lincoln Park, Mich.
R. J. Harrant, Owosso, Mich.
Russell Hild, Newberry, Mich.
Guy Hiscock, Port Huron, Mich.
R. M. Hitchings, Flint, Mich.
Henry Hoebeke, Grand Haven, Mich.
Erlend Hubbard, Rockford, Mich.
Albert Jaeger, Ecorse, Mich.
Frank Jones, Beaverton, Mich.
Harry King, Negaunee, Mich.
Andrew Klomparens, Holland, Mich.
Robert Maxwell, Cadillac, Mich.
W. H. Mitchell, St. Joseph, Mich.
B. E. Mottesheard, Dearborn, Mich.
Edward Palmer, Grand Rapids, Mich.
Norman Pritchard, Ferndale, Mich.
Edward L. Rector, Grosse Pointe Park, Mich.
Arnold Renner, State Fire Marshal, East Lansing, Mich.
Harry Ridout, Muskegon Heights, Mich.
Calvin Roberts, Plymouth, Mich.
Fred Roberts, Reed City, Mich.
George Ross, Rochester, Mich.
John Rourke, Detroit, Mich.

Chris Smith, Muskegon, Mich.
Frank Trombley, Sault Ste. Marie, Mich.
Joseph Trudell, Bay City, Mich.
J. Frank Van Atta, Kalamazoo, Mich.
Harold Vought, Marshall
Earl Washburn, Kalamazoo Co., Comstock, Mich.
Karl Welcker, Howell, Mich.
C. E. Willert, Mt. Clemens, Mich.
H. E. Wilson, Alpena, Mich.
John Wyngarden, Zeeland, Mich.
Ivan Young, Eau Claire, Mich.
August Zado, East Detroit, Mich.
Ben Zahn, Ann Arbor, Mich.

Napoleon Ayotte, Hibbing, Minn.
L. H. Cark, Coquet, Minn.
C. F. Ginther, Rochester, Minn.
Cieve Goldsmith, Duluth, Minn.
William J. Sudeith, St. Paul, Minn.
John Tober, Austin, Minn.
Earl Traeger, Minneapolis, Minn.
Louis Turk, Chisholm, Minn.

R. G. Duren, Greenwood, Miss.

W. H. Gardner, Salvage Patrols, Kansas City, Mo.
John T. Lynch, Kansas City, Mo.
George Urbanski, St. Joseph, Mo.

Art J. Baker, Lewistown, Mont.

D. A. O'Connor, Omaha, Neb.
R. J. Van Fleet, Fremont, Neb.

Myron Barbour, Long Branch, N. J.
Arthur Bilby, Monclair, N. J.
Ernest Beckert, West New York, N. J.
Charles Burnett, Newark, N. J.
Andrew T. Callahan, Harrison, N. J.
Albert Chamberlain, Ex-Chief, Hillside, N. J.
L. G. Coleman, West Orange, N. J.
John Cullinan, Morristown, N. J.
Fred Fowler, Ex-Chief, Keyport, N. J.
Thomas Gussner, Bloomfield, N. J.
Harry Hoffmann, Red Bank, N. J.
Andrew Hutch, Nutley, N. J.
Arthur Jaques, New Brunswick, N. J.
Harry Jarvais, Elizabeth, N. J.
James T. Keegan, Salvage Patrols, Newark, N. J.
John H. Lennox, Camden, N. J.

Photo by Hugh Walker

Newly Elected Officers and Retiring President, I.A.F.C.

L. to R., Chief Art J. Baker, Lewistown, Mont., retiring President; Jay W. Stevens, San Francisco, Cal., Executive Secretary; Chief Frank C. McAuliffe, Fire Insurance Patrol, Chicago, Ill., 2nd Vice-President; Chief Charles A. Delaney, Lakewood, Ohio, 1st Vice-President; Chief Samuel J. Pope, Boston, Mass., President; and Chief Daniel B. Tierney, Arlington, Mass., re-elected Secretary-Treasurer.

Charles A. McGinley, East Orange, N. J.
James McGrath, Cliffside, N. J.
George Megnin, Allendale, N. J.
George Mitchell, Ex-Chief, East Orange, N. J.
Francis Murray, Teaneck, N. J.
Thomas Murray, Summit, N. J.
William F. O'Neill, Weehawken, N. J.
Thomas Phelan, Trenton, N. J.
Eugene Reardon, Port Monmouth, N. J.
William Wandrat, Kearney, N. J.
George S. Wright, Roselle, N. J.

John Breunich, Larchmont, N. Y.
I. H. Case, Vice-President, FIRE ENGINEERING, New York, N. Y.
George W. Clough, County Fire Marshal, Mineola, N. Y.
Arthur Dillon, Binghamton, N. Y.
Sanford J. Getman, Ilion, N. Y.
James J. Higgins, Schenectady, N. Y.
Fred Knight, No. Tonawanda, N. Y.
Richard Leonard, Fire Chief, Harbor Defenses of L. I., Ft. H. G. Wright, N. Y.
Francis O'Boyle, Middletown, N. Y.
J. H. O'Neill, Niagara Falls, N. Y.
C. B. Patterson, East Herkimer, N. Y.
Robert Reed
Fred Shepperd, Editor, FIRE ENGINEERING, New York, N. Y.
Rudolph Swanson, Jamestown, N. Y.
Thomas Taylor, Garden City, N. Y.
John Tubridy, Buffalo, N. Y.
H. A. Vincent, Herkimer, N. Y.
George Winter, Syracuse N. Y.

Charles Burkett, Salisbury, N. C.
George McLaughen, Gastonia, N. C.
W. H. Palmer, Charlotte, N. C.

Frank Campion, Fargo, N. D.

R. M. Clark, Kent, Ohio
C. A. Delaney, Lakewood, Ohio
Earle Raymond, Massillon, Ohio
Grover Frock, Springfield, Ohio
James Granger, Cleveland, Ohio
John Kessler, Troy, Ohio
Joseph A. Kirby, Dayton, Ohio
Harry King, East Cleveland, Ohio
V. L. Malloy, Salem, Ohio
Wilson McLaughlin, Sandusky, Ohio
Roy Messerly, Zanesville, Ohio
John J. O'Doherty, Lorain, Ohio
Fred Schlorf, Toledo, Ohio
L. D. Seiler, Cuyahoga Falls, Ohio
Edgar Troxell, Arcanum, Ohio
F. C. Vernotzy, Akron, Ohio
E. P. Welch, Columbus, Ohio

G. A. Goodin, Muskogee, Okla.
G. R. McAlpine, Oklahoma City, Okla.

Charles E. Clark, Ex-Chief, Wayne, Pa.
George Ebner, Carnegie, Pa.
Edmund Lewis, Scranton, Pa.
Frank Lord, Clifton Heights, Pa.
C. V. Rodgers, Ellwood City, Pa.
L. P. Scully, Erie, Pa.
Charles Smalenberger, Meadville, Pa.
A. S. Stouffer, Palmyra, Pa.
C. A. Sullivan, Memphis, Pa.
Joseph Thuer, Ind. Chief, Pittsburgh, Pa.
C. E. Wood, Ex-Ind. Chief, Chester, Pa.

Frank J. Callahan, Central Falls, R. I.
A. J. Cote, Woonsocket, R. I.
Thomas H. Cotter, Providence, R. I.
Charles C. Murphy, Long Meadow, R. I.
J. A. Savage, Valley Falls, R. I.
Arthur H. Woolhouse, Warwick, R. I.

Jack D. Bone, Anderson, S. C.

C. M. Johnson, Knoxville, Tenn.
J. Roy Pyle, Kingsport, Tenn.

J. H. Boone, El Paso, Tex.
C. C. Killian, Fort Worth, Tex.
D. P. Rachal, Port Arthur, Tex.

Grover E. Brown, Murray, Utah
L. C. Canning, Midvale, Utah
Jack Clay, Salt Lake Co. F. D., Murray, Utah
Eldon L. Hubbard, Ogden, Utah
J. K. Piercey, Salt Lake City, Utah
D. J. Kelley, Burlington, Vt.

A. H. Koltonski, Rutland, Vt.

Edward J. Cannon, Norfolk, Va.
James M. Duncan, Alexandria, Va.
W. B. Sykes, Portsmouth, Va.
W. E. Sykes, Norfolk Navy Yd., Portsmouth, Vt.
Ed. F. Ware, Hampton, Va.

W. P. Payne, Spokane, Wash.

Edwin Bryant, West Allis, Wis.
Elmer H. Fairbert, Beloit, Wis.
Raymond Gee, So. Milwaukee, Wis.
H. P. Heup, Neenah, Wis.
Sgt. F. J. McHale, Hanford, Wis.
A. C. Miller, Wisconsin Rapids, Wis.
Rod A. Porter, Portage, Wis.
Arthur J. Rahn, Two Rivers, Wis
Julius Sely, Cudahy, Wis.
August Sokoll, Sheboygan, Wis.
Peter Steinkellner, Milwaukee, Wis.

James Armstrong, Ex-Chief, Kingston, Ont.
Don Boulder, Winnipeg, Man.
John Hamilton, London, Ont.
R. E. Pare, Montreal, Que.

Associate Members

L. B. Morgan, San Francisco, Cal.

O. E. Fern, Supt. Automotive Equipment, Washington, D. C.
J. Loew, Washington, D. C.
N. A. Odom, Chief, Fire Defense Section, WPB, Washington, D. C.
George J. Richardson, Secretary-Treasurer, Intl. Assn. of Fire Fighters, Washington, D. C.
Dr. W. A. Ross, Consultant, Public Serv. Occupations, U. S. Office of Education, Washington, D. C.
A. L. Thornton, WPB, Washington, D. C.
W. W. Withers, American-LaFrance-Foamite Corp., Washington, D. C.

J. O. Eaves, Atlanta, Ga.
G. E. Kohn, Fulton Bag and Cotton Mills, Atlanta, Ga.
Roy Timmerman, Atlanta, Ga.

Robert Baird, Bi-Lateral Fire Hose Co., Chicago, Ill.
Charles Cizek, American-LaFrance-Foamite Corp., Chicago, Ill.
Father John Coleman, Fox Lake, Ill.
George S. Conover, Chicago, Ill.
W. J. Dahlgren, Evanston, Ill.
H. M. Forster, Herman Nelson Corp., Moline, Ill.
G. A. Jackson, Chicago, Ill.
R. M. Lawless, Bi-Lateral Hose Company, Chicago, Ill.
H. W. Long, Chicago, Ill.
L. A. Lohr, The Seagrave Corp., Chicago, Ill.
R. W. Neville, Chicago, Ill.
E. W. Rhoades, Eureka Fire Hose Div., U. S. Rubber Co., Chicago, Ill.
J. G. Scanlon, Fire Captain, Chicago, Ill.
Frank Stover, The Gamewell Company, Chicago, Ill.
G. W. Stowell, Midwestern Manufacturing Co., Mackinaw, Ill.
E. C. Watson, American-La-France-Foamite Corp., Chicago, Ill.

Lyle Essex, South Bend, Ind.
A. F. Chesse, Indianapolis, Ind.
W. H. Glazebrook, Fabric Fire Hose Div., U. S. Rubber Co., Indianapolis, Ind.
H. N. Grubers, Indianapolis, Ind.
Joseph Lump, Gary, Ind.
Frank L. Orr, Terre Haute, Ind.
R. F. Paradise, Paradise Manufacturing Co., Indianapolis, Ind.
Joseph E. Rudd, Indianapolis, Ind.
R. G. Shiffler, Elkhart Brass Mfg. Co., Elkhart, Ind.

W. H. Rocheleau, Westbrook, Me.
P. H. Becht, Rockwood Sprinkler Co., Worcester, Mass.
J. E. Foltz, Boston, Mass.

R. B. Heath, Rockwood Sprinkler Co., Worcester, Mass.
Edward J. McCarthy, The Gamewell Co., Newton, Mass.
Edward J. O'Neill, Peter Pirsch & Sons Co., Roslindale, Mass.
James J. Ryan, Rockwood Sprinkler Co., Worcester, Mass.
Clifford T. J. Sennott, Ward LaFrance Truck Corp., Boston, Mass.
J. D. Sherwood, Rockwood Sprinkler Co., Worcester, Mass.

B. D. Barton, American Marsh Pumps, Inc., Battle Creek, Mich.
F. Bostwick, Detroit, Mich.
John E. Bruckner, Detroit, Mich.
Ray A. Carle, Grosse Pointe, Mich.
L. A. Eastman, Wyandotte, Mich.
D. English, Detroit, Mich.
A. J. Gilleo, Eureka Fire Hose Div., U. S. Rubber Co., Detroit, Mich.
Edward W. Hall, Detroit, Mich.
A. W. Henroin, Detroit, Mich.
Clyde Hinkle, Ecorse, Mich.
W. J. Hollinger, Detroit, Mich.
George W. Knabe, Grand Rapids, Mich.
Francis A. Lobadie, Ecorse, Mich.
R. C. Loughead, Detroit, Mich.
R. Bruce McCaleb, Battle Creek, Mich.
C. T. McGraw, Circul-Air Corp., Detroit, Mich.
Walter Mellor, Grand Rapids, Mich.
George N. Monks, Dearborn, Mich.
C. C. Pearo, Detroit, Mich.
Roy G. Pulver, Bean Mfg. Co., Lansing, Mich.
W. A. Riedel, Detroit, Mich.
Ed. Rumsey, State Fire Instructor, Detroit, Mich.
Joseph Segar, Muskegon, Mich.
A. B. Siegfried, General Fire Truck Co., Detroit, Mich.
C. M. Smart, Highland Park, Mich.
W. E. Storey, American Marsh Pumps, Inc., Battle Creek, Mich.
A. C. Wallich, Detroit, Mich.
Peter Wealtkee, Grand Rapids, Mich.
John Weber, Grand Rapids, Mich.
M. D. Whale, Bean Mfg. Co., Lansing, Mich.

Donald R. Bentzen, Minneapolis, Minn.
George K. Fischer, Minneapolis, Minn.
Harold F. Lundberg, Minneapolis, Minn.

Ed. S. Doan, St. Louis Sponge Co., St. Louis, Mo.
W. A. McDonnell, F. D. Photographer, St. Louis, Mo.
Glenn T. Scott, American-LaFrance-Foamite Corp., Kansas City, Mo.
Harry W. Voight, St. Louis, Mo.
Frances Wornall, Director of Public Safety, Kansas City, Mo.

Thomas O. Stewart, Charlotte, N. C.
O. C. Wipper, Raleigh, N. C.

Gilbert G. Brown, Federal Telephone & Radio Co., Newark, N. J.
Ernest N. Day, N. J. Fire Equip. Co., Duneen, N. J.
John B. Keenan, Commissioner of Public Safety, Newark, N. J.
John P. Maloney, Pyrene Manufacturing Co., Newark, N. J.
William E. McGlyn, Fire Commissioner, Kearny, N. J.
M. C. Murphy, Bi-Lateral Fire Hose Co., Arlington, N. J.
William T. Regan, Fire Commissioner, Elizabeth, N. J.
Otto Wagner, Fire Commissioner, Elizabeth, N. J.
John J. Yandura, Fire Commissioner, Trenton, N. J.

F. W. Beardslee, Mack Mfg. Corp., New York, N. Y.
J. O. Binford, American-LaFrance-Foamite Corp., Elmira, N. Y.
Nils G. Bjorck, Ward LaFrance Truck Corp., Elmira, N. Y.
H. G. Cavanagh, American District Telegraph Co., New York, N. Y.
R. C. Engels, Larchmont, N. Y.
William R. Ford, Safety Research Institute, New York, N. Y.

J. Freidman, Hoffman Machinery Co., New York, N. Y.
Joseph H. Green, Eureka Fire Hose Div., U. S. Rubber Co., New York, N. Y.
George J. Kuss, Woodhouse Mfg. Co., New York, N. Y.
John F. Martyn, Jamestown, N. Y.
Clarence E. Meek, Mack Mfg. Co., New York, N. Y.
William Moeller, Superior Fire Equip Corp., New York, N. Y.
Arthur Myers, Atlas Safety Equip. Co., Inc., New York, N. Y.
W. S. O'Connor, New York, N. Y.
A. W. Pritchard, New York, N. Y.
James Rogers, Hempstead, N. Y.
John J. Slavin, Niagara Falls, N. Y.
G. B. Smith, D. B. Smith & Co., Utica, N. Y.
A. G. Sullivan, Buffalo Fire Appliance Corp., Buffalo, N. Y.
Herbert E. Sunbury, New York, N. Y.
Nelson Thompson, Homelite Corp., Port Chester, N. Y.
Hubert Walker, American-LaFrance-Foamite Corp., Elmira, N. Y.
Alden W. Welch, New York, N. Y.

Harold Behrens, Cleveland, Ohio
W. L. Birch, Columbus, Ohio
R. G. Davis, Toledo, Ohio
Emmet H. Byrne, Batt. Chief, Bureau of Fire Education, Cleveland, Ohio
Merle Gifford, Youngstown, Ohio
E. R. Gauvey, Greenville, Ohio
L. W. Graves, Akron Brass Mfg. Co., Wooster, Ohio
W. B. Glander, Toledo, Ohio
Leonard Hansen, Toledo, Ohio
J. H. Krallman, Cleveland, Ohio
S. G. Langher, Akron Brass Mfg. Co., Wooster, Ohio
Vincent MacCarthy, Lakewood, Ohio
E. W. McKay, Elyria, Ohio
Curtis Niles, Toledo, Ohio
J. C. Schellin, Wooster Brass Mfg. Co., Wooster, Ohio
William Schlientz, Dayton Fire Equip. Co. Dayton, Ohio
H. L. Stettler, Akron Brass Mfg. Co., Worcester, Ohio
Lester Stevenson, The Seagrave Corp., Columbus, Ohio
Walter D. Switzer, Cleveland, Ohio

R. W. Auer, Philadelphia, Pa.
Charles F. Baer, Philadelphia, Pa.
Charles W. Bird, Mine Safety Appliances Co., Pittsburgh, Pa.
Ray Cornwall, The Welders Service Co., Inc., Pittsburgh, Pa.
Frank Deen, Asst. Chief, Lancaster, Pa.
Art Espey, Head Instructor, Firemen's Training Program, Harrisburgh, Pa.
S. A. Fink, Pittsburgh, Pa.
Austin Jones, Pittsburgh, Pa.
R. J. Murray, Erie, Pa.
M. E. Sweeney, Pittsburgh, Pa.
E. J. Wendell, Hale Fire Pump Co., Conshohocken, Pa.

J. N. Cathcart, Anderson, S. C.

A. D. Busbey, Dallas, Tex.
Gordon B. Holloway, Memphis, Tex.
Richard G. Joyner, Eureka Fire/Div., U. S. Rubber Co., Dallas, Tex.
R. W. Joyner, Eureka Fire Hose Div., Div., U. S. Rubber Co., Dallas, Tex.
Thimas E. Lewis, Tampa, Tex.
R. B. McCormick, Memphis, Tex.

Mrs. Dorothy Brigham, Oren Fire Apparatus Co., Roanoke, Va.
Mrs. Kathryn Lemon Counts, Oren Fire Apparatus Co., Roanoke, Va.
C. M. Dinwiddie, Oren Fire Apparatus Co., Roanoke, Va.
Clyde E. Hilton, Oren Fire Apparatus Co., Roanoke, Va.

James J. Hakes, Salt Lake City, Utah

E. J. Arps, Duo-Safety Ladder Corp., Oshkosh, Wis.
C. E. Goodman, Peter Pirsch & Sons Co., Kenosha, Wis.
I. R. Kittelsen, Stevens Point, Wis.
W. L. Reineke, Oshkosh, Wis.

C. Anderson, Toronto, Ont.

Control of Magnesium Fires

Instructive Tests Carried Out at Dow Chemical Company Plant on Extinguishing of Magnesium Fires

By FRED SHEPPERD

THE National Board of Fire Underwriters and the International Association of Fire Chiefs were joint sponsors for a series of tests on the control of magnesium fires, held at the plant of the Dow Chemical Company, Midland, Mich., August 2nd and 3rd.

The committees of the National Board and the Association included: A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters; Chief John J. Tubridy, Buffalo, N. Y.; Chief Edward Palmer, Grand Rapids, Mich., and Fred Shepperd, Manager of the Association. The Dow Chemical Company was represented by Chief E. Wecker of the plant fire department; M. W. Marks of the Engineering Department and R. I. Thrune of the Dowmetal Division of the company. E. W. Fowler of the National Board of Fire Underwriters, served as an observer, as did several engineers of the Factory Insurance Association, Underwriters' Laboratories and the Automatic Sprinkler Corporation of America.

The purpose of the tests was to enable the committee to set up demonstrations on extinguishing magnesium fires at the conference of the Association held at Grand Rapids, Mich., on August 28-31.

Test No. 1

Test No. 1 consisted of extinguishing a fire involving approximately 1500 pounds of magnesium castings, tubing and turnings placed on a concrete floor and walled in on two sides by brick walls, set at a ninety degree angle.

The pile was ignited by magnesium shavings and sawdust, piled at one end.

After ignition, the pile was permitted to burn ten minutes, during which time the sawdust and shavings were completely consumed and a large part of the castings involved by fire. Molten magnesium was flowing from the burning castings.

As nearly as could be estimated, approximately one-third of the castings had been consumed at the time extinguishing operations started.

The fire was extinguished by the application of G-1 powder, a powder especially designed for magnesium fires, and consisting principally of finely divided graphite.

The powder-driven applicator, which delivered the G-1 powder on the fire, had a capacity of approximately 120 pounds per minute. The unit carried 630 pounds of powder.

At the time the powder was first applied, the fire was burning briskly and particles of molten magnesium were being thrown approximately twelve feet in the air over the fire due to the contact of molten magnesium with the concrete floor.

It took approximately seventeen minutes before the fire was fully under control. Even at this time small surface fires remained. Six and a half drums of G-1 powder weighing each approximately 350 pounds were used in the test, giving a total application of 2,275 pounds of G-1 powder.

In the extinguishment of this fire, considerable difficulty was encountered due to the fact that the castings were piled approximately four feet high, and the powder as applied would fall through the interstices, or spaces within and between castings, and thus made it a difficult and slow operation to completely cover the burning mass of magnesium.

In extinguishing fires by the use of G-1 powder, it is necessary to completely cover the magnesium. Ordinarily a covering of one-half inch thickness is sufficient to bring about extinguishment of the fire. In this case, however, it required large quantities of the powder to fill up the spaces between the castings and to create the necessary cover.

Incidentally, the G-1 powder is not ordinarily considered as fully effective in operating on this type of fire. For fires in melting furnaces, pots, and other places where molten magnesium is encountered, the G-1 powder functions rapidly and effectively. It is also effective in covering piles of shavings and sawdust, requiring comparatively small quantities of the powder for this purpose.

After the fire had been compleetly covered, some burning still persisted beneath the powder as indicated by opening the piles some hours later, when traces of fire were still evident.

Typical Magnesium Explosion Produced When the Molten Metal Comes in Contact with Water

Test No. 2

Test No. 2 consisted of attacking a pot of molten metal with a stream of water. The purpose of this test, or demonstration, was to illustrate the extreme hazards involved when water is driven into a large quantity of molten magnesium. A melting pot, fired by gas at high pressure, contained 700 pounds of molten magnesium. The temperature of the molten magnesium at the time of the test was 1,552 degrees F., which is approximately 200 degrees above the melting point of magnesium.

Because of the anticipated violence of the explosion, which would occur when water reached the molten magnesium, the nozzle on the hose line was attached to a framework of pipe, so that as pressure was built up at the nozzle, the stream would reach the pot of magnesium. The line of hose was 500 feet long, and the nozzle was left unattended.

The pump operator engaged the pump and gradually built up the pressure so that the reach of the stream gradually increased. When the stream finally reached the molten magnesium, a terrific blast occurred. In this demonstration, all observers, firemen and others, were kept at a distance of from 250 to 300 feet from the test.

No apparent damage was done to the unit.

Test No. 3

In this test, approximately 1,500

pounds of magnesium castings, tubing and some shavings were placed on a plank platform, with one rear and one side wall extending upward approximately four feet.

The pile was ignited by use of magnesium shavings and permitted to burn for twenty minutes before the application of water. At the time of water application, the castings and tubing were well involved, and approximately a third of the pile had been consumed by fire.

Three fire streams were used, each from a 1⅛-inch nozzle. The nozzles were operated from a point approximately 60 feet from the fire, and the nozzle pressures were around 45 pounds per square inch.

The hose lines were 400 feet in length, and a pump pressure of approximately 100 pounds was maintained.

The first stream was started and directed at the heart of the fire, followed by a second stream one minute later and the third stream thirty seconds later.

The first contact of water with the burning magnesium caused a fairly severe explosion which cast pieces of tubing approximately thirty feet. All during the process of extinguishing the fire, mild explosions occurred. Most of these cast minor showers of particles of molten magnesium within a short range of the fire.

The fire was completely extinguished in three and a half minutes.

Test No. 4

In this test, 1500 pounds of magnesium castings were used in a set-up similar to test No. 3: flooring and walls of the unit were of planked construction. The pile, which contained some tubing as well as the castings, were ignited through the agency of magnesium shavings. The fire was allowed to burn for eight minutes and fifty seconds, at which time approximately a fifth of the pile had been consumed and the fire had reached a vigorous stage.

One stream of water was used on this fire, from 1⅛-inch nozzle at approximately 45 pounds pressure. One hundred pounds was maintained at the pumper, and line was 400 feet in length.

The object of this test was to determine the effectiveness of operating the steam on the unburned side of the pile and gradually working toward the fire, thus cooling the magnesium castings and tubing gradually and bringing the fire under control.

Water was started on the fire at 4:23:20, working from the unburnt end of the pile toward the fire. Streams worked slowly across. At 4:25-30 water was being directed on the heart of the fire, as the fire had been reduced materially in the interim. At 4:27-50 the fire was blackened on the surface, with only a little hidden fire showing.

At 4:28:10 the fire was apparently out, although close inspection showed some of the small castings were still afire beneath the pile. These were extinguished, and the fire was declared completely out at 4:28:30.

Test No. 5

The layout for this test was the same as for number four, and the same platform was employed. The platform and ground beneath were watersoaked from the previous test. Unburned magnesium from previous test, plus an addition approximately equal to that which had burned in the preceding test, was used. This test was to demonstrate the effectiveness of fog or spray nozzles on magnesium fires. Two nozzles were employed, one creating a fine spray or fog, with limited reach, while the other was a more concentrated stream in the form of a coarser spray. The fire was started at 4:27:0 and at 4:50:30 the fog nozzles were put in operation.

Most of the fire extinguishing effect seemed to be produced by the coarser spray, for the end of the set on which this stream was applied showed more rapid darkening than where the finer fog was used.

At the start, minor blasts or explosions were produced, possibly from the action of the fog on the molten magnesium as well as from the molten magnesium reaching the dampened planks. As the extinguishing operations progressed, the explosions became more vigorous. After approximately six minutes of operation, there was almost a continuous succession of minor blasts. The front of the fire was fairly well darkened, but the rear still showed plenty of fire, when, without warning, at 4:59:30, a violent explosion occurred, completely demolishing the set.

Not only were the magnesium castings, some weighing seventy-five pounds, blown over an area of 250 feet radius, but the floor and wall planks of the test set, though anchored, were blown clear of the site of the test.

The floor planks, which had been charred on the upper surface, were broken upward, indicating that the blast had taken place beneath the planks.

It is the opinion of the judges that the explosion was caused by the precipitation of molten magniseum into water which had accumulated on the ground around and beneath the flooring. The fact that the various castings, tubing and other magnesium pieces were all driven quite a distance from the site of the test, while practically none of the articles landed within a radius of fifty feet, would indicate this theory well founded. Had the blast taken place in the center of the pile, it would naturally be expected that the castings, tubing, etc., would be scattered quite uniformly over the area around the test site.

It is believed that the greatest hazard of explosion at magnesium fires is created by the possibility of molten magnesium reaching accumulated water.

Test No. 6 (a)

Immediately preceding Test No. 6, a demonstration was run to show the characteristic burning of wetted magnesium chips.

Three 55-gallon metal drums of wetted chips were ignited and permitted to burn to complete destruction.

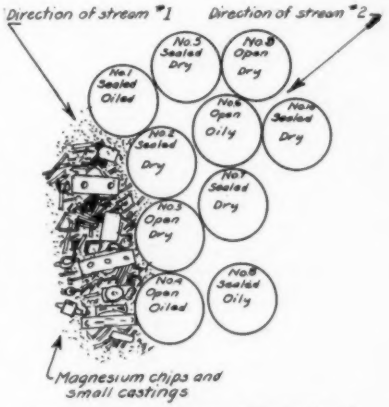
The burning was attended by explosions throwing small showers of molten magnesium into the air. It took approximately ten minutes for the magnesium in the three drums to burn.

Test No. 6 (b)

The purpose of test No. 6 was to determine the effectiveness of water streams played on drums containing magnesium wastes in preventing the fire from communicating from one drum to another, as well as to determine if fire could be extinguished in pile of magnesium before magnesium drums become involved.

As shown in the sketch herewith, ten cans of shavings, chips, sawdust, etc., some dry, some wet and some oily, with six cans sealed with metal covers, and the other four open, were included in the demonstration.

Fire was started in a pile of approximately 300 pounds of magnesium castings and chips placed in contact with the first row of four of the ten cans.



Arrangement of Drums of Magnesium in Test at Midland

Each can contained from 80 to 100 pounds of shavings, sawdust or borings.

The fire burned for approximately ten minutes, so that it had gained considerable headway before water was applied.

Two hose lines were used, with engine pressure at 100 pounds and nozzle pressure approximately 40 pounds at each of the 1⅛-inch nozzles.

The fire alongside of the cans was out in approximately two and one-half minutes after the streams were put in operation, but several of the open cans had become involved. Streams were directed at the drums and not into them.

After the fire had burned approximately half an hour, one of the drums blew its lid. The streams were continued on the drums for approximately forty-five minutes, when it was determined the fire would spread no further.

Subsequent investigation of the fire showed the following:

Drum No. 1—top blown off and contents burned.

Drum No. 2—completely burned out, without blowing of top. The lid or top of the drum had two holes in it, providing escape for any pressure built up by combustion of material within. The contents of this drum had been reduced to "ash" which consisted largely of nitrides. Some of the nitrides were taken from the drum and placed on a metal lid and, after a few minutes, started burning.

Drum No. 3—The contents of this drum were completely destroyed.

Drum No. 4—Contents of this drum were completely destroyed.

Drum No. 5—When the cover of this drum was opened, there was a two-inch fringe of oxides and nitrides to a depth of ten to twelve inches in the can. There was a characteristic nitrogen odor to the contents.

Drum No. 6—Contents were completely burned.

Drum No. 7—This drum, which contained paper, wire, etc., in addition to the shavings and sawdust, showed no damage.

Drum No. 8 — No oxidation at all. There was some two to ten inches separation of this can from drums that burned.

Drum No. 9—Contents burned.

Drum No. 10—No evidence of oxidation or burning.

This demonstration showed that drums of magnesium shavings, sawdust and other fines, can be protected by fire streams provided the drums are sealed and are not in contact with other drums in which magnesium is burning.

Conclusions

This series of tests emphasized several points. In the first place, the time element at an average magnesium fire is in favor of the fire fighting forces. Magnesium, when dry, burns slowly. The involvement of solid castings is a slow process, and unless quantities of other combustible materials are present, a fire starting in magnesium castings or even in piles of magnesium shavings and sawdust would normally spread with such slowness as to enable the department to be on the scene and in operation before the fire had gained serious headway. Furthermore, the burning of magnesium in a dry location is not accompanied by pyrotechnics, enabling the firemen to approach the fire closely to make proper appraisal of it and to determine the method of procedure. Burning magnesium does not throw off smoke, in the common sense, and thus a full inspection of a magnesium fire can be made before operations start.

Burning magnesium castings can be reduced in temperature by the application of water so that the temperature will be reduced below the point of combustion. Fire can be stopped in this manner. This is evident by the operations in test No. 4, where the fire streams were moved slowly along the pile toward the fire.

Magnesium Hydroxide Formed

Unless water is present around the fire in quantity, the danger of explosion is not considered pregnant. But if water remains on the floor or the ground around the fire, there is danger of molten magnesium coming in contact with it and producing a violent reaction.

When burning magnesium comes in contact with water, the water is broken up into two component gases, hydrogen and oxygen, and the oxygen combines with the magnesium to form magnesium hydroxide. The hydrogen is freed as a gas and upon mixing with air and being ignited, produces mild explosions. Because this gas is not normally confined, these explosions have little force, and outside of producing a shower of magnesium sparks, little danger is created.

The speed with which a magnesium fire is extinguished depends upon the quantity of water used. The tests showed very definitely that it is not necessary to use high pressure streams, and further, that a stream which has been broken up fairly well produces less violent reaction than a solid stream.

Because of the generation of hydrogen gas, and the possibility of explosive mixtures forming in a building in which burning magnesium is present, it is considered most essential that thorough ventilation of the structure be accomplished at once before fire fighting operations start. Hydrogen gas, being much lighter than air, will rise and pass readily to the outside, where the subsequent ignition will do little or no harm. Permitted to remain within a closed room and become mixed with air, the explosion produced by this mixture of hydrogen and air may prove serious to the structure and extremely dangerous to the fire fighting forces operating in the building.

Magnesium Fire Strikes Philadelphia

A series of terrific magnesium explosions and fire turned the block-long plant of the Quaker City Iron Works in Philadelphia, Pa., into a miniature battlefield on August 19.

Before the five-alarm fire was out, twenty-five persons had been burned or injured, including eight firemen and two spectators and the whole northeast section of the city had been shaken by the blast. Scores of windows were shattered.

Magnesium is used in a vital war material for the Army, the identity of which was not disclosed.

At least 100 explosions of varying intensity occurred. With each blast, masses of magnesium were thrown into the air, where they burst into showers of searing yellow sparks.

Fire Chief William F. Cowden, who directed the use of fifty pieces of apparatus and more than 200 firemen, ordered all spectators kept a block from the scene for their own protection. Nevertheless, two were burned by flying sparks.

Firemen carefully kept their streams of water from the piles of burning magnesium because of violent reactions, wetting down the buildings of the plant and adjoining structures instead.

The original alarm was sounded from the company's own private fire box at 11:13 a.m. by Robert Wilson, the firm's superintendent. Wilson was the first to discover the blaze and summoned some of the employes to fight it with hand extinguishers. But the heat from the blazing magnesium drove them back.

By the time firemen arrived, all 250 of the plant's employes had been driven to the street. The four subsequent alarms were sounded at 11:29, 11:30, 11:31 and 11:40.

Since the plant is engaged 100 per cent in war work Army officers and intelligence men, FBI agents and Coast Guardsmen hurried to the scene. Ambulances were sent from Jefferson, Frankford and Episcopal hospitals. The staff of the Burholme Rescue Squad and the Council of Defense mobile Red Cross unit also helped treat the slightly injured at the scene.

One hundred policemen, including all police captains from the Northeast, were sent to the scene. Inspector Thomas Burns, in charge of the police radio system, directed the setting up of two-way radio communications.

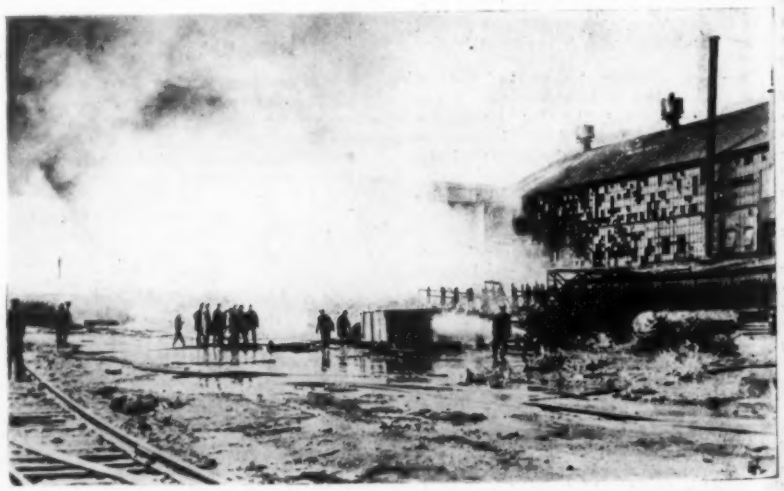
A fire apparently started in one of a number of small sheds adjoining the main building of the plant, where the raw magnesium is stored. The first blast sent showers of flaming sparks against other sheds, and they too ignited.

A small storage warehouse of the Philco Radio Corporation and the plant of the Penn Galvanizing Company, which occupy space on the Gaul Street side of the plant, were menaced, but firemen kept the buildings wetted down.

Some of the flaming magnesium sparks also set fire to dry grass and weeds in nearby lots. Firemen put out those blazes with sand.

SERVICE TRUCKS NOW AVAILABLE

As we go to press, word has been received from N. A. Odom, Chief, Fire Protection Section, Governmental Division, War Production Board, that the necessary arrangements have been made to grant authorization on service ladder trucks, subject to an appeal from the provisions of Limitation Order L-43. All appeals must be submitted by the manufacturer to the Safety and Technical Equipment Division, War Production Board, Washington, D. C.



Magnesium Explosions at Fire in Philadelphia Play Havoc with Windows in Adjacent Plant

Waterfront Munitions Fire New Jersey's Worst

Four Day Fight Causes Injuries to Over 500, Deaths to Six; is Fought by Departments of Hoboken and Neighboring Cities and Coast Guard

By ROI B. WOOLLEY

THE worst conflagration thus far encountered by New Jersey in World War Two occurred in Hoboken August 11 to 14, raged out of control for hours, causing the death of six persons and injuries to over 500 and damages of upward of $4,000,000, most of it to vitally needed war materials.

The fire involved piers 3, 4 and 6, on the North River; a five-block long three-story warehouse and office building at the head of Pier 4; a very small pier lying between piers 4 and 6; three lighters, one being so badly burned it had to be scuttled, and a Liberty ship. Other craft were threatened, one reported to have been an ammunition barge which was towed into the North River in the nick of time. Pier 4, the most severely damaged, is over 1000 feet long. It was covered with thousands of tons of supplies and automotive equipment waiting transshipment to vessels. Among the material were trucks, tractor treads, drums and barrels (some of the latter highly inflammable) and cases of war supplies. Pier 3 is a covered pier, somewhat shorter in length; Pier 6 is an open dock. All are supported on creosote piling, the larger piers having concrete floors.

Caused by Small Dock Truck

According to the Hoboken Police Department the most logical explanation of the fire's origin is that sparks from the exhaust of a "chisel truck" used for transporting cased cargo on piers, ignited the fumes emanating from a punctured 55 gallon steel drum of highly inflammable nitro-cellulose, causing the explosion which led to a series of lesser blasts and the resultant disastrous blaze.

The driver of the "chisel truck," a small gasoline powered vehicle equipped with two steel steel prongs extending from its bottom front admitted that one corner of a ton-and-a-half case he was carrying on his truck on Pier 4 probably punctured the drum and that sparks from the exhaust ignited the fumes.

This was about 8 P.M. on August 11. The exploding drums of nitro-cellulose, oxaline and other flammable liquids, spread the fire with great rapidity, cutting off the escape of men on lighters alongside the pier and, it is believed, blowing some of them into the water, from which most of the bodies were recovered some days later.

At 11 o'clock the blasts intensified, sending roaring flames high into the air, and along the pier, igniting three lighters and endangering other craft and a Liberty ship moored nearby. At one point the fire spread so rapidly that firefighting crews were barely able to escape with their apparatus and hose.

The first alarm was received by the Hoboken fire headquarters at 8 P. M. A general alarm was sounded at 8.02 P. M. to bring all of the city's nine companies, under Acting Chief Andrew U. Keller. Calls for assistance were dispatched to Jersey City and New York City almost immediately. A disaster alarm was given in Hoboken at about this time, summoning air raid wardens, auxiliary police and firemen, and Red Cross Units to the scene. The Hoboken Chapter of the American Red Cross set up a mobile canteen for the firefighters at the end of the pier. Two disaster squads from Jersey City Medical Center aided Hoboken ambulances in removing the injured to St. Mary's Hospital in that city. Later, other injured were rushed to other hospitals—fifteen New York City firemen being sent to Bellevue Hospital, Manhattan. The fire put ninety-seven officers and men of the New York Fire Department on the sick list, eighty-six of them from the Marine Division alone.

Almost immediately after the first explosions, hundreds of telephone calls poured into the Manhattan fire alarm headquarters advising that the waterfront of Hoboken was afire. Two of the city's fireboats, the McClellan, temporarily assigned to the foot of West 35th Street, Manhattan, and the Harvey, located at the foot of Gansevoort Street, North River were ordered to the scene. These boats were enroute to Hoboken at 8:17 P. M. when Chief Keller's call for help was received by the New York Department. Shortly after, the city sent its largest boat, the Fire Fighter, to join the battle. Two other boats of its marine navy were re-located to cover areas left uncovered by this movement.

Fire Commissioner and Chief of Department Patrick Walsh, apprised of the fire, early crossed the River and offered aid to Chief Keller. This was gladly received and at 10:22 P.M., the Commissioner ordered sounded a third alarm from Box 186 located at Canal and Hudson, Manhattan, the nearest box to the Holland Tunnel, via which the land apparatus from New York could best reach the scene of the conflagration—by that time lighting up the Jersey waterfront.

Smart Handling of Alarms

According to well informed accounts, the supervising fire alarm dispatcher of Manhattan, on duty at the time, Gerald Cruise, anticipating from the numerous calls being received that the city would be asked to send help by land and water, sounded signal 65-2 which, in the New York Fire Department Code, means to those on watch: "Turn on your radio to Station WNYF—1630 kc." —the New York Fire Department's own short-wave radio station. Over this radio the firefighters were notified that a third alarm for Box 186 was in the mak-

Official U. S. Navy Photo

Municipal and Coast Guard Fireboats Operating on Pier No. 4 at Hoboken, N. J., Which Was Gutted, Destroying Large Quantities of War Munitions.

ing and that the companies assigned to that box should proceed to the Hudson Tunnel entrance on Canal Street and thence go to the City of Hoboken. Certain units and officers normally scheduled to respond to that box were "held" by telephone. Paced by Holland Tunnel Police, who had also been apprised of what was to come, the third alarm assignment — twenty-one pieces — raced to Jersey.

These units included (1st Alarm): Engines 30, 27, 13, 14; Trucks 8 and 1; Chief Guinee, 1st Division; Loughlin, 5th Battalion; McMahon, Second Battalion; Rescue 1. (2nd Alarm): Engines 31, 29, 7, 55; Squad 22; Truck 20; Searchlight 1. (3rd Alarm): Engines 12, 18, 6, 17, 32 Truck 9; Ambulance 1 (Dr. Schein); Fuel 1. This naturally was accompanied by the re-location of numerous companies in Manhattan and other boroughs. Others responding from New York, in addition to Commissioner and Chief Walsh—and Mayor LaGuardia who, as usual "also ran," were Fire Marshal Brophy; Supervising Engineer Irwin and aide; Chief Medical Officer Costelloe; Chief Holian, Marine Division; Chief Comiskey of the Fire Department Emergency Auxiliary Corps and a large number of his charges. The water side was looked after by Chief Holian, while Chief Guinee handled the shore end for the New York City contingent. Later, Doctors Finestone and Saland responded from New York and operated with the Fire Department Ambulance, which alone in the early stages handled over fifty cases.

Boat Boosts Low Water Pressure

Early in the morning of Saturday the 12th, New York dispatched still another fireboat, the Hewitt, to further boost the low pressure resulting from the drain on the old 12-inch water mains on River Street, Hoboken. One or more boats continued to operate at the fire for seven days, or until August 18 at about 5 P.M. New York City land companies were all withdrawn by Aug. 18. Two Jersey City engine companies and one truck company operated on the fire until late on the 16th.

A force variously estimated at from 500 to 1,000 Coast Guardsmen was ordered to the scene by Rear Admiral Stanley Parker, Coast Guard Commandant, Third Naval District, who directed fire fighting operations of the Armed Forces. Scores of these men were treated for injuries. At one time thirty Coast Guard craft were operating at the fire; this included seven fireboats, three tugs and some twenty picket boats.

Hoboken Calls for Help

Calls for aid were dispatched to the Jersey City, Union City and Weehawken Fire Departments at 8:20 P.M. Jersey City sent three engine companies and one searchlight company under command of Deputy Chief Maloney; Union City was represented by Deputy Chief Firenze and two engine companies and one truck company; Weehawken dispatched one engine company and one truck company under Chief O'Neill.

The civilian defense units in Hoboken turned out wth helmets and armbands and aided in confining the huge crowds some five blocks distant from the edge of the fire. Salvation Army workers aided the Red Cross members from Jersey City, Maplewood, South Orange and Hoboken in the distribution of food for the hundreds of fire fighters. Agents of the Federal Bureau of Investigation, War Shipping Administration, Naval Intelligence, and other bodies were early on the scene, as was Michael Kearins, Hoboken's Director of Public Safety. These agencies each conducted its own investigation into the blaze.

During the worst of the fire, in the densest areas of smoke from the piers, firemen had to work in 20-minute relays, playing water against the creosoted burning pier timbers. At the end of twenty minutes they reported immediately to first aid stations. The chief cause of injuries, it is said, was smoke poisoning and conjunctivitis due to the creosote smoke, which created a pall that at times made untenable over twelve square blocks in the vicinity of the fire and accentuated the discomfort accompanying the unprecedented heat wave, Hoboken's worst in over forty years.

More Serious Disaster Averted

Disclosure was made, later, that an even greater disaster had been averted when longshoremen, Coast Guardsmen and firemen, working feverishly in advance of the flames, succeeded in rolling 900 barrels of highly inflammable camphor out of the path of the flames. Had this been ignited, it is said, the fumes generated by the burning camphor would have forced the evacuation of half of Hoboken. As it was, smoke seeped into the Pennsylvania Railroad Tunnels, connecting New York and New Jersey, into trains and extended to the train level of Pennsylvania Station, Manhattan Emergency first aid stations were set up in advantageous locations. During Friday night, the first night of the fire, Red Cross canteens and volunteers fed more than 1,500 fire fighters and rescue workers. North Hudson and Newark units joined Hoboken and others on the scene.

The fire caused evacuation of 162 seamen from ten ships in the danger zone. These were sheltered by the Red Cross and the Hoboken Young Men's Christian Association. Firemen were given gauze face masks as a protection against the acrid smoke; improvised masks were made out of triangular first aid bandages. Newspaper accounts report that "the Red Cross requisitioned and distributed two dozen gas masks from the Office of Civilian Defense. It is not known just how these were used but some firemen are reported to have objected to them in line with the warning published in this magazine last month by request of the OCD to the effect that these issue masks are not intended for smoke use.

Conclusions

This fire is a reminder that large concentrations of munitions and combustible war materials in or near heavily populated areas are a decided hazard, no matter how extensive the fire prevention and protection measures.

Hazards are intensified where flammable materials are stacked with narrow passageways and where gasoline driven cargo trucks are being operated.

That the Armed Services are alive to the possibilities of similar conflagrations is evidenced by action taken in Brooklyn and Hoboken by the Army and Navy in sending soldiers and sailors into ship repair yards where, because of a strike among laborers, debris and other inflammable materials had been allowed to accumulate, constituting a serious fire hazard to ships there.

In Brooklyn, where 200 laborers were on strike, fifty-seven soldiers and 100 sailors were detailed to remove all inflammable materials from ships belonging to the respective services. Acetylene torches and welding equipment were being used in repair work, on the decks of ships littered with combustibles and the Armed Services refused longer to tolerate the resulting hazards, created when cleanup laborers quit work.

Fireboats and Railroad Tugs Operate on Hoboken Pier Fire.

Amusement Fires Not so Amusing!

Succession of Fires in Out-Door Amusement Places Climaxed With Two Major Conflagrations in New York Area

By ROI B. WOOLLEY

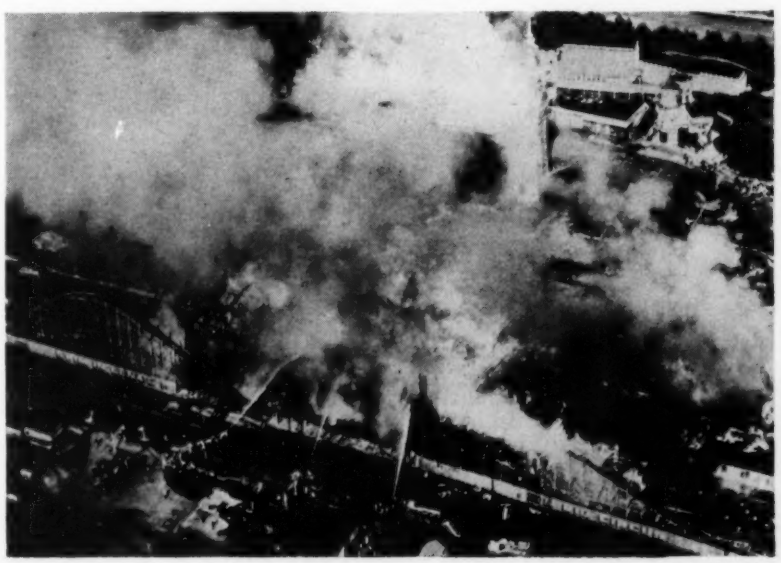
THE succession of fires, some of them tragic, in present day amusement places, which began with the fatal Ringling Brothers, Barnum and Bailey Circus fire in Hartford and included the burning of the Oriole's baseball team's park in Baltimore, the blaze in Elitch's Gardens "tunnel of love" in Denver, the several fires in race tracks and fairs, and the queer business of the traveling merry-go-round in Bareville, Pa., climaxed in two serious week-end conflagrations in the Metropolitan New York area.

Luna Park Fire Just Before It Reached the Tower in the Right Background, Which Collapsed When Involved by Flames

On Friday, August 11, came the Hoboken pier fire by way of an *entre act*. Then, on Saturday afternoon, the 12th, fire, believed caused by a short-circuit, swept through Coney Island's famed playground, Luna Park, destroyed half the rides and concessions packed into sixteen and one-half acres, with loss estimated at $500,000.

About 8,000 people were in the park when fire was discovered shortly before 3:30 P.M. in the washroom of the scenic railway called the Dragon's Gorge. All of these filed out through main entrances without panic. Reports are that employees tried to fight the fire with pans of water and finally extinguishers before anyone thought of sending for the public fire department. The first alarm was received by fire headquarters at 3:41 P.M., from Box 3564 located at Surf avenue and West 11th. This brought Engines 245, 326, 244; Truck 166; Chief Carberry of the 43rd Battalion. At 3:46 P.M. came the second alarm, bringing Engines 316, 253, 254, 327; Truck 153; Chief Marquardt of the 12th Division; Deputy Chief Carrig, in charge of Brooklyn and Queens; Fire Marshal Brophy (who conducted the subsequent investigation) with Assistants Marshals Scott, Reilly and Tiedeman; third alarm at 3:47 P. M. calling Engines 246, 243, 276, 250, 284; Trucks 169 and 156; the Chief of the 33rd Battalion; Fuel 3; Fire Patrol 6 with Deputy Chief Cashman; Ambulance 2 with Dr. Hill; fourth alarm at 3:49 P.M. bringing Commissioner Patrick Walsh; Assistant Chief McCarthy, Deputy Commissioner Butenschoen, Assistant Chief Waldron, Acting Chief Jones, Apparatus Division; Engines 247, 309, 282, 255, 241, 228, 220; Trucks 149 and 148. These responses necessitated relocating many companies throughout Brooklyn, Queens and Manhattan. At 4:02 P.M. the High Presure was raised to 175 pounds. At 4:06 P.M. fifth alarm: Engines 310, 249, 257, 279, 210, 235; Truck 157; and Dr. Costelloe. At 4:08 the High Pressure was boosted to 200. Several companies normally due to respond, or to relocate on the above assignments, were out of quarters due to the Hoboken fire and other calls, necessitating further filling-in.

At 4:43 P.M. the situation was so critical still more help was required, and an additional third alarm assignment was requested. In order to secure the necessary quota of companies, the Supervising Dispatcher (Phil McGovern) raised the quota to a fifth alarm assignment for Box 1227 at Union Street and Eighth avenue to obtain the necessary responses. Therefore at 4:43 P.M. the long unused signal 9-9—3564—5-5—1227 went out over the wire. This is the famous "Two Nines," last time sounded on January 30, 1931, for the Lincoln Arcade fire in Manhattan. This brought Engines 269, 280 (251), 219; Truck 105; Chiefs of the 48th and 32nd Battalions: second alarms (same box), Engine 220 and Truck 222 (several companies locating); third alarm: Truck 110 (more companies locating) and the Chief of the 31st Battalion; fourth alarm: Engines 249, 240; no Truck; Engine 207 (204) was out. It returned later and was dispatched by 'phone; fifth alarm:



U. S. Navy Photo

Aerial View of Luna Park Fire at Its Height

Engines 279 (203), 235 (34). Engine 214 had been out and was dispatched by telephone; Truck 131 (more companies locating). Beginning at 5:28 P.M. twelve other relocations were made, which were not on the assignment cards. This was necessary in order to cover uncovered territory. A number of companies assigned but not accounted for in the above tabulation were at other first alarms or special calls.

No Fatalities

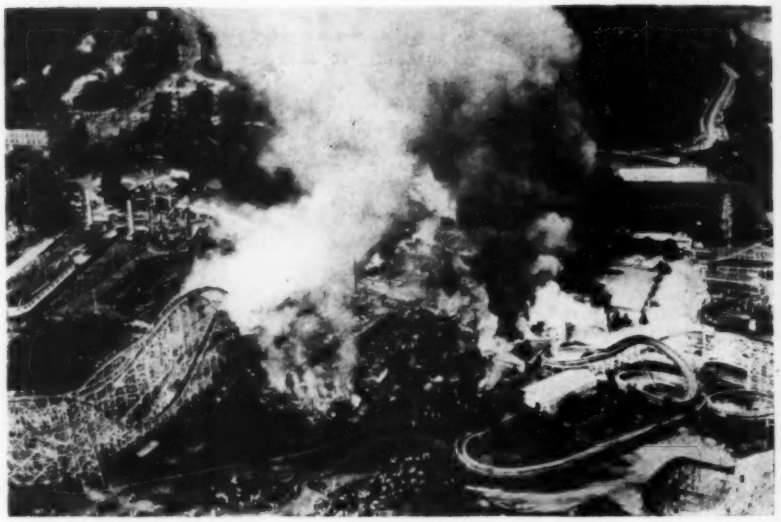
Although police estimated that in addition to the 8,000 in the Park, 800,000 persons had sought surcease from the heat in Coney Island and the majority of these stood on the Boardwalk, a block south of the fire, and behind the fire lines on side streets to watch the blaze, none was killed and only four firemen and three civilians were hospitalized for burns and some thirteen other volunteers treated at the scene for cuts, etc. Ambulances from four hospitals responded.

According to Fire Marshal Brophy, the fire originated in the wiring in a washroom built of highly inflammable burlap, plastic and wooden studding. According to the Marshal, employees fought the fire for fifteen minutes before the alarm was sounded.

Flying embers and sparks endangered a wide area, finally setting fire to a car barn and repair shop of the BMT subway system, three-quarters of a mile away, where there were some twenty old cars awaiting repairs. All of them were destroyed or badly damaged.

In order to secure apparatus and men to fight this new fire and to protect a large gas tank of the Brooklyn Borough Gas Company nearby, four more alarms were sounded.

At 4:30 P.M. a telephone call brought Engine 276, Truck 161 and the Chief of the 42nd Battalion. Three quarters of a hour later Division Chief Marquardt (12th Division) requested a second alarm for Box 3391 at Canal Avenue and Shell Road. A second alarm would have been useless, in view of the previous movement of all companies that would normally respond to that Box, so the Dispatcher raised it to a Fourth Alarm, which brought Engines 204 (207), 253, 250, 309 and Truck 156, a total of five pumpers and two trucks. The locations were covered by the twelve company shifts previously reported.



Palisades Park Fire Shortly Before It Was Brought Under Control

Embers from the original fire also set fire to automobiles in two parking lots (note the similarity between this and the Palisades Park fire), destroying twelve and damaging four. A small blaze was also started by sparks on the wooden trestle of Twelfth Street, known as the Old Sea Beach Bridge. These fires were all quickly extinguished without calling more companies.

Collapsing Tower Endangers Firemen

Among the concessions to burn was the 125-foot Coca-Cola towner. When this fell it endangered between thirty and forty firemen. Firemen and volunteer workers suffered greatly from the extreme heat, both the unprecedentd climate, and the scorch from the burning concessions, which went up like the tinder they were.

At least 600 air-raid wardens and about 250 extra policemen assisted regular police in handling the crowds. A large contingent of auxiliary firemen were on hand, and were later officially thanked by Mayor LaGuardia, who said they worked hard, efficiently and well.

According to Fire Department officials, the "Two Nine" alarm, with the Four Alarm BMT response brought out more apparatus than any other occasion in the Department's history. They state the total at the two places was fifty-one engines, seventeen trucks, one fuel wagon, one rescue squad and one department ambulance.

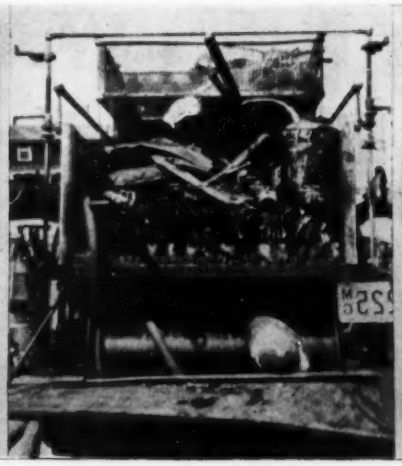
Palisades Amusement Park Fire

On Sunday, August 13, fire, racing before gusty southeast winds, swept the huge Palisades Amusement Park perched atop the Palisades, overlooking the Hudson river opposite 125th Street, Manhattan. Deaths thus far total six with several persons still in the hospital; injuries amounted to 125, with 19 hospitalized for treatment. The loss is estimated at from $750,000 to $1,000,000.

Palisades Park sprawls over 15 acres, partly in the communities of Fort Lee and Cliffside Park. It has long been known for its salt water surf swimming pool which, on the afternoon of the fire, was occupied by about 4,000 persons. The Park itself was crowded with the usual Sunday crowd, swollen to about 15,000 because of the abnormal heat at the time the first flame was seen in what was known as the Virginia Reel, almost in the center of the place. Within a few minutes flames were leaping fifty feet above the concession, and the fire had hop-skipped from one to another to ignite the roller coaster, one of the largest in the East. After this the spread was more rapid, all sorts of fun-makers going up in smoke almost before water could be gotten on them. A dance floor valued at $25,000; a liquor storage worth $30,000, dance halls, mer-

Luna Park After the Fire Had Done Its Work

Chiefs Kearney and Kelly (Right) of Palisades Park Flanked by Law Officers Who Summoned Outside Aid.



Burned Rear of Fort Lee's No. 1 Pumper with Damaged 3" Hose and Fittings. Strangely Enough Booster Line Was Uninjured.

Photos Courtesy [illegible]

Fort Lee Spare Apparatus Used for Wetting Down Amid Devastated Palisades Amusement Park.

ry-go-rounds and bars were all fuel to the flames.

Cause Unknown—Alarm Delayed?

So little remains of the Virginia Reel that the cause of the fire may never be known. The reports of the time of the alarms vary; there appears to be a six minute discrepancy between official reports. It is believed that employees endeavored to fight the fire for some minutes before outside help was summoned from the Park office. At about the time the first call was received by the Fort Lee Police Department at 2:09 P.M. a traffic officer on post at the foot of the Palisades noticed the smoke and notified the Edgewater Police. Cliffside Park Police also received notification at about the same time.

The Virginia Reel was a thrill device, built in the shape of a mountain, and extending at its peak about fifty feet above the ground. Patrons are placed in bucket cars and are drawn to the top by chain mechanism similar to that used on roller coasters. At the top, one car was released at a time and it descended along a twisting, turning path, passing through a small tunnel before it reached the bottom. The car itself whirled as it descended. It was in this Reel that the more serious casualties occurred. A car containing three sailors had just completed the trip and a car containing five young persons was starting down as the flames knifed through the structure. They were licking at the path as the car began its tortuous descent and by the time it was part way down the section near the tunnel itself was in flames. The car caught fire as it sped toward the tunnel. As it stopped, one girl, seemingly unconscious of her actions, struggled to her feet and stumbled out, her clothing burned from her. The other occupants remained huddled in the car. The first rescuer to reach them was Private William Schnau, a soldier, who suffered second degree burns in dragging victims from the car. He was followed by Father Kennedy, a Catholic priest, the sailors and others. Rescuers and rescued were rushed to Englewood Hospital, where three boys and three girls died.

Although there was no panic, the movement of the milling crowds at times took on stampede qualities. This was particularly true at the pool, where the mob blocked Engine 1 of the Fort Lee Fire Department, first pumper to pull into the pool area. Unable to follow the prescribed route to the pool's edge because of the jam, the pumper became stuck in the sand at the pool's edge. By using all its suction sections, it was able to reach water.

As the fire spread and the black smoke climbed skyward, excitement increased. Women and children were screaming; there was the usual rush to get to the bathhouses to regain clothing and valuables. Other persons hhurried out of the Park in their bathing suits. The Park itself is surrounded by a tall wire fence which further created confusion and delayed egress. Portions of this fence were broken by patrons. Firemen raised ladders to aid people over the fence and off one story structures alongside it, where they had taken refuge. Many people, in scaling one section of the fence risked contact with two large power transformers and high tension power wires. In the excitement some one is said to have shouted: **"jump in the pool"** and about fifty persons did so, some with their clothing on. They did not remain after the water began to get warm.

The smoke, visible for 15 miles, coupled with the noise of the apparatus and police, attracted additional crowds. Parents rushed to locate relatives; and then there were the curiosity seekers. This added traffic slowed the response of some incoming apparatus, until the roads were cleared and blocked off by civilian defense and police, some distance from the scene.

(*Continued on page* 683)

Some of the 200 Parked Cars Caught by the Fast-Spreading Fire in Palisades Park

Akron Fights Worst Fire in Eighteen Years

Many Injured as Blaze Destroys Akron Rubber Plant

Forty-eight firemen and three other persons were injured in one of the most spectacular fires in Akron's history that destroyed the Schulman scrap rubber plant. A pillar of smoke mounted several miles into the sky and was seen from cities twenty miles away.

FORTY-EIGHT firemen and three other persons were hospitalized, and scores of others affected less seriously by a combination of sulphurous gases released by burning rubber and the 95 degree heat at a $350,000 fire in Akron, Ohio.

Considered the most spectacular fire Akron has had in years, the blaze necessitated the calling of outside aid as well as the use of nearly all Akron's own fire force. Fire companies from Cuyahoga Falls, Barberton, Kent, Canton, Bedford, Massillon, Copley, Hudson and Coventry plus fire fighting equipment from Akron rubber plants and auxiliary volunteers reinforced the local fire fighters. This bolstered force, it is estimated, poured 8,000 gallons of water per minute on the blazing buildings and molten rubber, using a network of twenty-two lines.

Persons were evacuated from hundreds of homes due to the intense smoke, and the threat of destruction of 150,000 gallons of gasoline in nearby tanks.

The fire started about 4 P.M. in the afternoon from what firemen believe were sparks from a double-header freight train which ignited dried grass. This in turn, before it could be controlled, spread to the stacked piles of old tires.

The flames destroyed part of the quarter square mile Schulman scrap rubber plant on Talmadge avenue and with it most of the huge piles of rubber waiting reclamation. At one time employees of the plant who attempted to fight the blaze at its beginning nearly had it under control, using an extinguisher, but by the time they could secure another, the fire was beyond their control. Fanned by a light breeze the blaze swept from the southwest corner of the yard, attacked the plant buildings, moved on to the main gate and then turned at right angles to the east. Approximately a dozen box cars and a truck trailer, in the path of the flames were consumed. This "turn to the east" imperiled the large gasoline storage tanks and brought gray hairs to Chief Frank Vernotzy of Akron, in charge of the battle.

Walkie Talkies Used

With the aid of civilian defense volunteers communications between the firemen choking and groping in the dense smoke and the directing officers was maintained by means of short-wave "walkie talkies." Chief Vernotzy, who took up his station at the side of the threatened gasoline storage tanks, was to use the portable radio if it became necessary to order the quick evacuation of firemen when and if it appeared that the tanks would "go". According to local accounts, while it never became necessary to evacuate the firemen, the "walkie talkie" proved its worth. It was used to order firemen from the main building about five minutes before the structure toppled.

Chief Vernotzy who himself was a victim of the smoke, estimated that 275 regular firemen and thirty pieces of apparatus were used to control the fire. Delay in getting hose streams into operation was occasioned when, at a critical early stage of the fire, a train passing on a road crossing tied up movement of incoming apparatus.

Praise is given a force of civilian defense auxiliary firemen who rushed to the scene with their equipment, filling in the gaps of the regular firemen when they were carried out. Auxiliary police assisted in handling the traffic which, at times, jammed every street in the vicin-

Sulphuric Fumes from Burning Rubber and Excessive Temperature Knocked Out Scores of Firemen. Note Type of Masks Being Used.

ity with parked and moving cars belonging to the curious onlookers.

Six doctors and a number of nurses set up emergency first aid stations at the scene to treat smoke-blackened firemen. At one point four firemen emerged from the pall of smoke carrying Fire Captain Hal Jones who had collapsed. As the men reached the fresh air they in turn dropped with Jones. Jones was taken to the hospital with back injuries and smoke poisoning. Six ambulances were pressed into a "shuttle

Chief Vernotzy Cools Off His Overheated "Posterior" by Dunking Himself in a Convenient Puddle.

service" from the fire to Akron hospitals. Dr. P. E. Cheek, at the emergency first aid station stated that most of the exhaustion cases resulted from the firemen losing salt from their bodies because of the excessive sweating. Two Schulman employees were injured, both by the bursting of a fire hose. A 13-year old "water boy" was the third civilian victim. He was overcome by smoke while acting as a Gunga Din for the firemen.

The fire was the second for the Company in the same location within the last five years.

Cedar Falls Host to Iowa Firemen

The Cedar Falls Fire Department acted as hosts to the Sixty-seventh Annual meeting and war conference of the Iowa Firemen's Association and Mutual Aid Service when it met there on September 19 and 20.

The Cedar Falls department is a four-man paid department including the chief and has a roster of ten volunteer firemen over half of which hold a ten-year certificate. Their equipment consists of a 1940 Peter Pirsch quad equipped with a 750-gallon pump and 170 feet of aluminum ladders and all necessary fire fighting equipment. In addition a new Seagrave 750-gallon pumper with a seven-man cab was just delivered in August. The department also has an inhalator and boat and trailer to carry the equipment as it is needed.

Chief J. M. Peterson who heads up the department, has been chief for twenty-six years and a member of the fire department for thirty-six years.

NEW BRANCH IS ADDED TO THE BRITISH FIRE SERVICE

Seagoing Fireboats Operate in Coastal Waters of England; Aided Materially in Salvaging Ships Damaged on "D" Day

By A. H. Selleck

ANOTHER unit has been added to the water-borne division of the national fire service, an overseas flotilla, so called because of their operations in ports and harbors on the Continent. Heretofore, there have been two other branches of seagoing firemen, the River Thames formation, who work, as their name implies, up and down the Thames. They operate very similar if not the same as the Marine Division of any Fire Department in the United States. The other unit is made up of seagoing fireboats that operate in and around the coastal waters of England. This unit, one boat in particular, The "Massey Shaw," played a very important role in the evacuation of Dunkirk. The new unit is made up into actual flotillas or fleets of smaller boats that operate from a parent ship. The parent ship acts as headquarters for the flotilla and also sleeps and feeds the members of the fireboat crews, as well as carrying reserve equipment. The boats will be manned by selected volunteers from the water units of the NFS. These men will come from all over the United Kingdom. They will be under the immediate control of their own officers but once in the waters of the Continent they will be under the operational control of the military authorities responsible for fire-fighting in that area to which they are assigned. The men will wear the same familiar NFS uniform and the equipment of the boats has been supplemented to meet requirements of overseas operation.

Helped Salvage Many Ships

Already many ships have been salvaged and put back into service by these men. Several that did not weather D-Day very successfully have lived to see another useful day.

While discussing the aquatic members of the fire service, here is a new one for the books. A new innovation has been added to their already varied duties. Recently assistance was given the Navy in recovering sea mines in a northern port of the United Kingdom. The mines were lying at a considerable depth in the estuary and were covered by anything up to six feet of heavy sand and silt. Where the silt covering was comparatively shallow, between three and four feet, it could be cleared by a diver, operating from a salvage vessel and playing a single jet of water from a hose onto the silt. The NFS supplies the pump and crew to deliver water to the diver, and by this means two mines were recovered after two hours pumping by the fireboat.

This method was not effective, however, where the mine was more deeply covered; the silt shaled back and so became a danger to the diver, who constantly slipped into the narrow channel made by the single jet. It was necessary, therefore, to devise more powerful apparatus, which would not need to be manhandled by a diver and would be capable of boring at least six feet of heavy sand and, simultaneously, clearing away the bored cut sand so as to avoid shaling back.

Apparatus and Equipment

The requisite apparatus was improvised entirely from standard NFS equipment. Two double-headed standpipe heads were fitted to the base of a heavy wooden block to carry branches and ¾-inch jets; the latter were set at a slight upward angle and thus acted as clearing jets to carry away the silt. Two further branches were lashed to the sides of the block and directed downwards to act as boring jets. The whole apparatus was lowered into the water from a derrick on the salvage vessel and water was supplied from a large trailer pump, as it was found that a pressure of at least 60 lbs. per square inch was required on each ¾-inch nozzle.

Work on these lines was carried out for several days and a number of mines were successfully recovered, in spite of difficult weather conditions and rolling sea, which made it difficult to locate the mines and direct the working of the apparatus.

Oil Goes to Blazes

Oily smoke and flames roll hundreds of feet into the night sky as 2,500,000 gallons of crude oil at the Newhall Refining Company, Newhall, Cal., burned on August 13. Ignition of naphtha fumes by a Bunsen burner in the plant laboratory is said to be the cause of the blaze. Immediately after the picture was taken, the plant's cooler house (in foreground) collapsed.

WITH OUR READERS

Mutual Aid in Practice

To the Editor:

On June 30 the Waverly Fire Department was called to fight a fire caused by an explosion in the elevator of the Kasco Mill, located in the heart of the business section. The fire spread through the entire mill in a matter of five minutes. We immediately called the Sayre Fire Department, about two miles away, and the Athens Department, four miles away. They came even before their respective alarms had stopped sounding.

Ruins of the Kasco Mill Fire in Waverly, N. Y.

The Sayre men were stationed on the roof of an adjoining house. The Athens department put out a roof fire upon arrival, thus saving the house. There were four roof fires that day caused by sparks from the mill fire.

The combined departments confined the fire to the mill property, thus saving four houses and possibly a lumber yard. The men worked together in the finest agreement, showing the effect of the fine training all the companies have had. Chief Alvin of Sayre and Chief C. L. Howard of Athens were in charge of their respective companies.

The loss was placed at about $300,000, partly covered by insurance.

This is the largest fire Waverly has ever had in money value, and the credit goes to the men who kept it confined to the one building.

Yours,
A. H. Hess,
Chief, Waverly, N. Y., Fire Department.

Moyamensing Junior Fire Co. Serves Its Community

To the Editor:

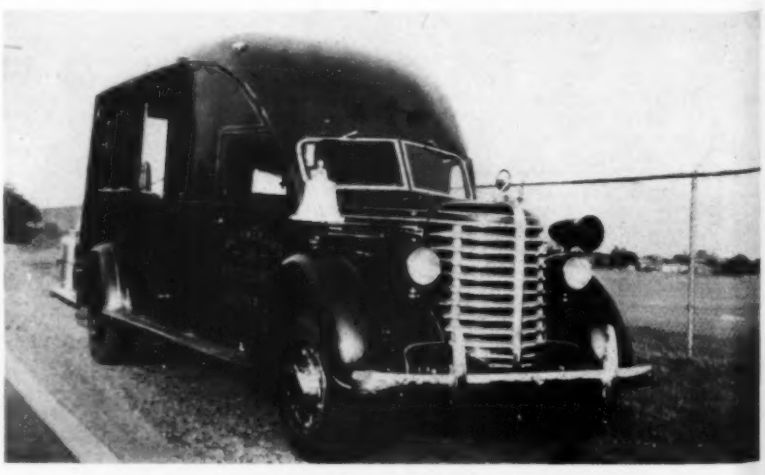
The Moyamensing Junior Fire Company was founded on June 21, 1935, under the supervision of the Moyamensing Hook and Ladder Company No. 1 of Chester, Pa. The junior company is made up of fellows between the ages of sixteen and twenty-one. The duty of these boys is to serve coffee and lime to firemen at all large fires in the city. Frequently we have been called to large fires in other parts of Delaware County, as well as Philadelphia, Delaware and New Jersey.

We consider our company one of the best equipped organizations of its kind in the country. Our truck is a 1940 Diamond-T with a specially built body. Our equipment consists of two ten-gallon coffee urns, one ten-gallon lime tank, a thirty-gallon water tank, a stretcher, fire ax, four lanterns, first aid kit, a fire extinguisher and other fire fighting appliances. This company is wholly volunteer, all our money and operating expenses coming from donations by fire companies, industrial concerns and individuals. Our motto is "Always Ready to Serve."

We now have eighteen active members. An additional thirty members are in the armed forces.

The present officers are: President, Pvt. Robert C. Grayson; Vice President, Earl Evans; Secretary, Robert Lundgren; Treasurer, Jack Cardwell; Recording Secretary, Sam Icana; Trustees, Earl Evans, Earl McMakin and Joseph Fillinish; Chief, Joe Rosati; and Foreman, John Windsor.

Sincerely,
Robert C. Grayson,
President, Moyamensing Jr. Fire Co. No. 1.



Coffee Wagon of the Moyamensing Junior Fire Company

A Fire Company Honors Its Servicemen

To the Editor:

The Young America Hose Company, No. 6 of Poughkeepsie, New York, has honored its thirty-one servicemen with a plaque which they dedicated on August 6. The honor roll was built by the president of the company and installed by members. Another member did the electric work and friends did the grading, planted the lawn and shrubbery and donated a flag pole.

In addition, the company publishes the *Servicemen's News* which tells of the happenings around the fire house and also gives the news of other men in the service. When a man comes home on furlough, the company gives him a gift. Those who can't get home are sent theirs. Each serviceman was also given a bond in both the Fourth and Fifth War Loan drives.

Sincerely,
Frederick Werner,
Historian Young American Hose Co. No. 6.

Philadelphia Firemen Have a "Hot Time" During the Month of July

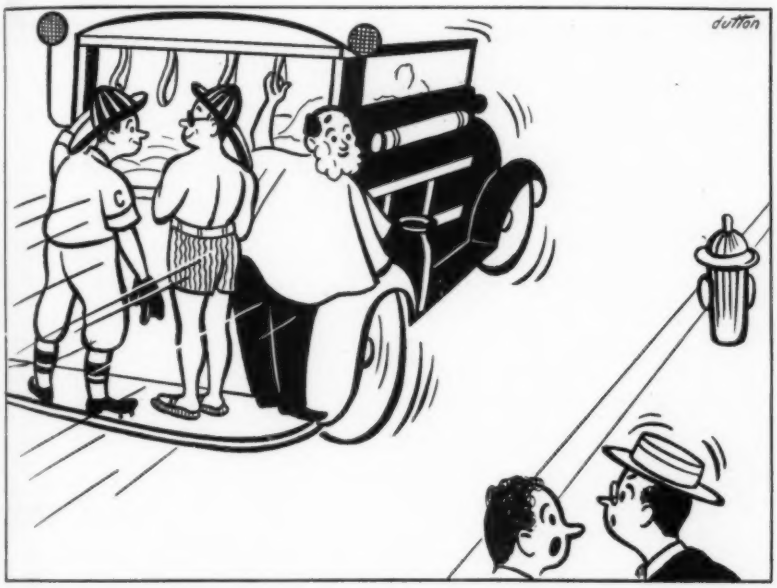
To the Editor:

During the month of July, the hottest on record in the Weather Bureau, Philadelphia's Fire Department was taxed to the limit with nine extra alarm fires.

The cycle started with a six-alarm fire at 2:24 a. m. on the morning of the 1st, when fire and explosions completely

(*Continued on page* 680)

FALSE ALARMS



"Those Volunteer Firemen Certainly Drop What They're Doing When the Alarm Sounds!"

Guilt

"What's the matter here?" asked the policeman of the battered man lying on the sidewalk outside an apartment house.

"Oh just absent-mindedness," was the reply.

"What are you talking about?" retorted the officer.

"Well, you see I live on the fourth floor of this building. My wife and I are both very absent-minded. I just came home from a long business trip, and my wife and I were at the dinner table when a step sounded in the hall and someone tried the door. Well, my wife is so absent-minded that she said, 'Goodness, here comes my husband!' and I'm so absent-minded that I jumped out the window."

"But why would anyone want to steal a Pullman ladder?" expostulated the conductor.

"I don't know, but she's gone," replied the porter.

At this juncture a passenger occupying an upper berth for the first time overheard the conversation, parted the curtain and generously remarked:

"Porter, you may use mine, I won't need it till morning."

A Sore Subject

Cavalry recruit: "Sergeant, pick me out a nice gentle horse?"

Sergeant: "Have you ever ridden a horse before?"

Recruit: "No."

Sergeant: "Ah, here's just the animal for you. Never been ridden before. You can both start together."

Sit and Gas

Paul: "Do you ever think of the good old days before we had rationing?"

Arch: "Yes."

Paul: "Do you think there is much difference now?"

Arch: "Yes, we used to step on the gas and sit, and now we sit on the steps and gas."

Versatile

A man visiting a country town went to the local barber for a shave. The barber made several slips with his razor, and each time he would paste a small piece of paper over the cut to stop the bleeding.

When the operation was over the victim handed the man $1.

"Keep the change, barber," he said. "It's worth $1 to be shaved by so versatile an artist. Why, you're a barber, butcher, and paper hanger all in one."

A gangster rushed into a saloon shooting right and left, yelling, "All you dirty skunks get outta here."

The customers fled in the hail of bullets —all except a Canadian, who stood at the bar calmly finishing a drink.

"Well?" snapped the gangster.

"Well," replied the Canadian, "there certainly were a lot of them, weren't there?"

Back to Nature?

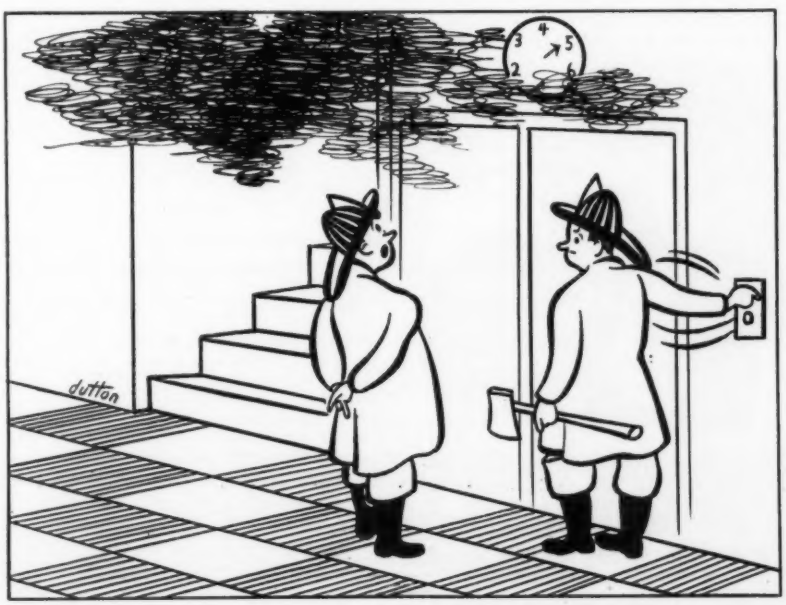
"The naked hills lie wanton to the breeze,

"The fields are nude, the groves unfrocked,

"Bare are the shivering limbs of shameless trees,

"What wonder is it that the corn is shocked?"

Advice to women war workers: If the sweater is too big for you, look out for the machines. If you're too big for the sweater, look out for the men!



"Let's Wait Just One More Minute. My Feet Are Killing Me!"

THE NEW
SAW-GUN
SHOULD BE STANDARD
ON ALL
FIRE-FIGHTING EQUIPMENT

Here's Why..!

The Saw-Gun is a portable power-saw that will quickly cut into all metals, wood and other materials. Quickly attaches to any electric or air drill, and may also be propelled by a flexible shaft. Insert ordinary hack-saw blade for cutting.

Firemen equipped with this handy tool can now get at the fire quickly. Can cut openings into obstructions regardless of their material. Cuts rapidly through heavy gauge steel. No need to waste precious time removing steel gratings . . . cut them out of the way with this amazing portable tool. Does away with slow, cumbersome, dangerous gas cutting torches, together with their long lines of hose and heavy tanks.

Progressive fire-chiefs who know the importance of getting at a fire *fast*—who want a quicker means of getting to entrapped persons, will add the Saw-Gun as standard equipment.

ONLY
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QUICK SHIPMENTS ON AA-5 PRIORITY OR HIGHER

Sold on Money-Back Guarantee

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EQUIPMENT COMPANY
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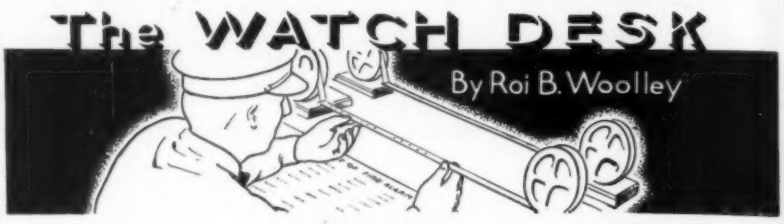
The WATCH DESK



By Roi B. Woolley

Our inquiring reporter overhauls the firemanic news of the day

Youths' Search Finds Fire—3-Alarms of It

Detectives seeking cause of a 3-alarm fire that destroyed a garage and house in Brooklyn (N. Y. C.) found it in confession of two youths who admitted they had siphoned some gasoline from one of two cars in garage and struck a match to see how well the gas was flowing. It was!

Youths are Joseph Raia, 18 and Izio Frangale, 17 both of Brooklyn. Raia had a car but lacked gasoline. Frangale said his father had a car and gas, and kept it in the garage. Raia had enough gas to drive to garage with a 5-gallon can in the back and the two forced their way into the garage. In addition to the car of Frangale's father there was another one in the garage so the Frangale gasoline supply was left intact and the young men began siphoning from the tank of the other car. It was dark—and you can guess the rest: the fire that resulted in a three alarm assignment, threatened an entire block. The y.m. fled, scorched a bit, but were apprehended after Raia applied at hospital for treatment of burns.

* * *

May Come in Handy at That

A contributor sends us an item from the Thornton (Ia.) Enterprise, which is headed "Fire Department Adds Much New Equipment." It goes on to say that **"much business was transacted by members of the Thornton fire department at their regular monthly meeting . . . several members were in attendance. . . . Murl Ytzen, fire chief, was authorized to purchase a step ladder, several feet of heavy rope, and a first aid kit—all of which will be carried on the fire truck hereafter. . . ."**

Yessir—there's much going on in the Volunteer fire service, these days!

* * *

Gas in Garbage Pit Fatal

A strange catastrophy in upper New York City took lives of three workmen, almost resulted fatally for two others, and gave members of Fire and Police Rescue Squads a busy time.

The men were employees of Sanitation Department of the City and were overcome as they climbed down into a 40-foot pit at the Department's new incinerator plant. The first descended to get a wrench that had inadvertently been dropped to the pit by the operator of a crane. When he was overcome another went to his aid, then another, and so on. The two who recovered managed to get out of the pit before collapsing. Rescue squads were summoned. First rescue efforts were made using ordinary filter-type masks. This was quickly given up for self-contained oxygen and hose-oxygen type masks, with the aid of which all victims were brought out. According to Captain Henry Eberle, Rescue Co. No. 3, the Bronx (N.Y.C.), who helped bring out the men and worked over them, the cause of the trouble was a pocket that had been created in the garbage in which the gas formed a dense concentration. However, after samples of the believed poisonous gas were taken and analyzed the report was given out that the actual cause of the deaths was insufficient oxygen, rather than poisonous gas fumes.

* * *

John J. Weisberger Reporting

Comes a *billet doux* from demon clipper Johnny Weisberger, with contributions, from among which we cull the following:

Nashville (Tenn.): Peculiar noises in the attic of a home sent Engine 7 on an investigating run. Firemen climbed a ladder and found 22 pigeons trapped by carpenters who had boarded up the birds' nests. Just another one of "those jobs" for the Brothers.

Bremerton (Wash): Smoke from a pot of beans which had burned dry asphyxiated shipyard worker J. Carlisle O'Hair while he napped on sofa of his apartment.

Wallingford (Conn.): Myriads of fish, which had been slowly suffocating in North Farms Reservoir, were reported cavorting normally — saved by artificial respiration administered by the Wallingford Fire Department. All done without the aid of inhalators, too!

The rapid decomposition of oxyge exhuding algae, caused by a l drought, had threatened to kill off t fish. Fire Department pumpers sucked up water, sprayed it back again, aerating it for two days. Here, thinks we, is a pretty good job for those surplus OCD pumps we've been hearing so much about!

Kansas City: Text of a broadcast on the police radio while firemen from Station 19 were extinguishing a blaze in the dormitory of the Brastow School: "Calling Car 64.....Calling Car 64..... Car 64 proceed forthwith to Fire Station 19 and turn out the fire under the percolator!"

* * *

In the Purple—and Turn So!

Yes siree, it was indeed a "colorful" fire, that to which Assistant Chief Timothy Donovan of the N.Y.F.D. and the Brothers responded! It was in a loft on Murray Street, New York City where the Universal Budget Systems uses red, green and black inks in the manufacture of stamp pads. When the good Chief and his fellow firemen

A MILLION TONS OF WARSHIPS

A million tons of Naval might are shown in this picture of part of the first U. S. Navy war fleet to drop anchor in waters that were Japanese prior to the Pearl Harbor attack. This tremendous concentration of war vessels was anchored in formerly held enemy waters less than a week after the island's capture early this year.

OFFICIAL U. S. NAVY PHOTOGRAPH

NATIONAL FOAM

HELPS PROTECT THIS FLEET FROM FIRE

Most of the millions of tons of the U. S. Naval might are protected against oil and other hazardous fires with National Foam Fire Fighting Equipment which have been adopted and are being extensively used by the U. S. Navy.

National Foam Fire Fighting Equipment has been used by most large oil refineries and other important industries for many years.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

BACK THE ATTACK—BUY WAR BONDS

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

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PROVED IN PEACE-TIME SERVICE!

READY FOR WAR-TIME DEMANDS!

The H-H INHALATOR

FOR many years the world's most popular life-saving instrument for victims of smoke, gas, electric shock and drowning, the famous H-H Inhalator has everything the war-time firefighter demands in safety of operation, speed of handling, durability and effectiveness. Auxiliary firemen may be trained quickly in the instrument's use — operation is simple and readily understood. Full details in Bulletin No. CA-9, free on request.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts.
Pittsburgh, Pa.
District Representatives in Principal Cities

emerged from fighting the blaze they were literally coated with a deep purple dye, the result of the action of the fire and water on multi-colored inks. The Universal Budget Systems is reported in the red, but all the lads are now in the pink."

* * *

The Month's Orchids

Posies and plaudits to truck driver Lynn Stackler of Lindsay (Calif.) who, when a truck laden with 1,500 pounds of dynamite took fire, stuck to his post at the wheel until he was able to maneuver his lethal cargo off the highway into a field.

Passing motorists went to his help, but Stackler shouted to them to keep away. He had hardly made his way to safety when the explosives let loose with a roar heard over a radius of ten miles. No one was hurt—thanks to Stackler, but parts of the disintegrated truck were found more than three-quarters of a mile away. (Thanks J. M.)

* * *

"Nylon Ordered in Fire Sale"

That's the way the news item read—sent us by several of the faithful. It is dated "Indianapolis, Aug. 22" and says: *"Announcement that the Indianapolis Fire Department had ordered* $160 *worth of nylon hose necessitated quick action on the part of the fire fighters. Department officials were forced to issue a hurried statement assuring the girls it was nylon fire hose in 50-foot lengths."*

Can you imagine one of the Bravest "trying on" a gal a 50-foot stocking, nylon or no nylon?

* * *

No "Open Door" in White Plains

Mebee it's the heat, or the humidity or somethin', but there's a number of the Faithful in White Plains (N. Y.) who are a bit het up over an order said to have been issued by Chief Abbott Griffin and Public Safety Commissioner Hanlon. The ukase sez, *"Keep fire house doors closed."* The reason, furthermore, is said to be necessitated because some firemen may have whistled at passing female pedestrians.

The firemen, says the grapevine, most of them married and owning their own homes, resent the implication they spend their time watching unescorted feminine pulchritude. They just don't do it, opines a spokesman for the department. Meanwhile Commissioner Hanlon says the order was intended to stop firemen sitting or standing outside firehouses in their, er, undies, to keep children from entering firehouses, and to keep the stations cooler by shutting out the sun. But as for the men—they're anything but cooler now—they're being "shut in."

* * *

Philadelphia Panic Averted

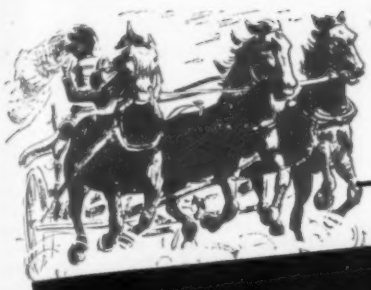
What might have been a tragedy was averted when William Israel, operator of the Earle Theatre, Philadelphia (Pa.) used quick and good judgment when six seats in the rear of the theatre rowded with 1800 persons, burst into flames after they had been soaked with an inflammable liquid. Israel discovering the fire, immediately ordered the national anthem played on the sound track from the projection booth. By the time the number was ended, police on duty inside the theatre had succeeded in extinguishing the flames with emergency fire equipment on hand. Several persons did leave the theatre, one woman suffering lacerations of the legs in doing so.

As the fire was being discovered a man approached policeman Joseph Neill on outside duty and handed him an envelope on the back of which was scribbled the words "theatre on fire." When the policeman learned that a half-gallon jar still half full of what smelled like kerosene had been found beneath one of the seats, he made a search for his informant. From the crowd he picked out a Negro, who was held for investigation. We dunno, but we'll bet the court let's him off with a mild scolding!

* * *

Hot Off the News Ticker

In Hoboken (N. J.), scene of the worst dock fire in years, Aristedes Rodrigues, was sent to jail for twenty days in default of $50 fine after he had pleaded guilty to smoking cigarette on ship berthed in the North River. His answer to one question asked by Magistrate R. F. Mahoney in Night Court (New York City) proved his undoing: *"I'm a fire watcher,"* he said. And a few days later came the Hoboken fire. . . . Ceremonies in honor of nine firemen who have died in the war and of 1,716 of the New York Fire Department who are in the armed forces were held at N. Y. Fire Headquarters, 150 departmental representatives being present. . . . In Kansas City according to the press, the OCD believes that all danger of air raids has passed so it is offering to public institutions its supply of several thousand hand-operated (pump-tank) fire extinguishers. Reports are that nearly all of the 4-gallon cans are still in their original packing cases. (Thanks, J. J. W.). . . . In Long Branch (N. J.) Patrolman Chester Waite, directing traffic for fire apparatus answering a false alarm, was struck on the head by a ladder on the Oceanic Fire Company aerial truck as it swung around a corner. The victim suffered a cut behind the ear and was treated at local hospital. (Thanks S. F.). . . . Police Captain Joseph A. Buccigross, Boston (Mass.) has been cleared of charges made against him after the fatal Cocoanut Grove fire in November 1942 which took 492 lives. The officer had been charged with wilful neglect of duty and suspended since Dec. 31, 1942. . . . Maureen Zane, 14 was carrying Theodore Snith, 2, across a street flowing almost ankle deep in water, during a storm in Queens (N. Y. C.) when she stepped on a live wire torn down by the storm and both youngsters were electrocuted; all efforts by emergency crews to revive them failed. . . . Members of New York's Police Bomb and Emergency Squads, with the Marine Division, were told there were seven sticks of dynamite buried in the Harlem River. They swept bottom of river with nets and grappling hooks and on first haul pulled up three crabs! On next haul they were rewarded by snagging two flares of type used by railroads. It developed that a clerk in a coalyard had found seven flares and chucked 'em in river. No one wanted the dredged flares, or the crabs and



FAMOUS in fire HISTORY

This Memorable Old Print

Currier and Ives did their best work on this striking study, the "St. Louis Conflagration of 1849." Overshadowed only by the epic '49 Gold Rush the flames and explosions of this catastrophe wrecked the entire waterfront area.

FREE—A beautiful black and white copy of this print! Ideal for framing. Send coupon today!

this modern fire fighter

It is unconditional surrender for fire when *CD/Fog* goes into action. No other extinguisher packs such a wallop. One moment—a blazing conflagration. Next—a quick application of *CD/Fog*. The fire is out. The fight is finished!

***CD/Fog* is absolutely safe, leaves no stain. Its harmless carbon dioxide swiftly smothers flame by excluding oxygen. Oil, gasoline, electrical, and chemical fires submit without a struggle.**

***CD/Fog* is dependable—quality mass produced for essential users by General Detroit, famous for over forty years of fire protection. Coupon below will speed details. Mail it now!**

Have these on your wall

THE GENERAL DETROIT CORP.

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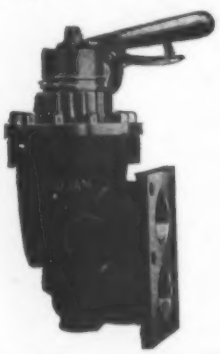
RELIEF
VALVES

1" to 2½" female threads

MODERN PUMPERS

demand these rugged, modern relief valves. Their simplicity and responsive dependability make them a must. Made in sizes from 1 inch to 2½ inches with capacities up to 1600 g.p.m. and pressures up to 750 lbs. Write for descriptive literature describing the complete line of



TRAILER PUMPERS

Trailer pumpers require valves made especially for this type of work, such a valve is the ROSS Trailer Pump Relief Valve. Made in sizes from 1 inch to 2½ inches with pressure adjustments from 10 lbs. to 750 lbs. and capacities from 0 to 500 g.p.m. at 120 lbs. pressure.

ROSS VALVE MFG. CO
INCORPORATED
P.O. BOX 595, TROY, N.Y.

the whole business is back in the river again where it should have stayed in the first place. . . . THE 168th VICTIM OF THE RINGLING BROTHERS BARNUM AND BAILEY FIRE DIED AUGUST 18. . . . $2,000,000 damage is reported when entire business section of Harbor Grace (N. F.)—including new $750,000 quick freezing plant—was destroyed by fire. Help was rushed from St. John's. . . . A nine-hour battle in which twenty tankfuls of oxygen and several pints of blood plasma were used, failed to save life of James Smith 3rd, 14, of Freeport (L. I.). . . . Coffee which boiled over, flared-up, igniting woodwork in the kitchen, resulted in death of woman and three children in Portsmouth (R. I.). Man who caused trouble, by falling asleep after setting on the pot, escaped. . . . In Yonkers, a "juke box" which had been grinding out "hot" music all through a hot night in unprecedented August heat wave got overheated, set fire to resort, causing loss of $1,000 according to Chief Edward Siller. . . . All fire apparatus in several communities of Essex County (N. J.) were kept busy by lightning storm that was aftermath of aforesaid heat spell. . . . Fire caused by lightning destroyed fifteen show horses and equipment worth $60,000 in Tulsa (Okla.). . . . The 105-year old Trinity Lutheran Church, West Sand Lake (N. Y.) was hit by lightning and burned. . . . Heat in Teaneck was too much for squirrels. One bit two women, got town in a dither, then roof of Edward Olsen's house caught fire from a sulphur candle he had lighted in attic in effort to drive out family of the pests. Firemen extinguished flames before much damage was done; cop shot one squirrel, two were suffocated. "'Tain't the heat it's the stupidity." . . . Fire fighters of Oswego (N. Y.) demand shorter hours, a standard minimum wage and certification of occupational diseases. . . . Brea (O.) nearly wrecked its newest fire truck. . . . Huntington (W. Va.) firemen and police ask increases of $25 per month. . . . Pittsburgh and Salt Lake City are having "station troubles", locating sites for new firehouses. . . . From J. W. C. comes that one which dates back to 1940, but is still good: *"The Des Moines fire department discovered it did not legally exist because somebody forgot to sign the bill creating it 56 years ago."* . . . Another "Dizzy Doings", this from Bro' Robinson, out Iowaway: *A New Albany (Ind.) man was arrested for reckless driving—of a horse . . . and explained that it galloped recklessly because it was a former fire horse.* . . . In Roxbury (Mass.) they were lucky. The Otisfield Baths, a normally busy place, was closed: Otherwise the Brothers might have had a very busy time when the place caught fire. . . . A story from Gawgia that is worth top-rating comes from Macon (Ga.) and has to do with Municipal Judge Douglas Feagin, who likes to play checkers in the firehouse. A certain boy and gal who couldn't locate a preacher and found no judges around the "cote" house, wandered into the fire station to ask for advice. There they found the Judge, who performed the fire station's first wedding, then went back to his checkers. . . . Chicago (Ill.) had a $100,000 theatre loss, when fire broke out just 15 minutes after late movie audience had left downtown Apollo Theatre. . . . As aftermath of our account of circus fire tragedy in last month's issue, we learn that five circus officials were charged August 11, with manslaughter in death of 168 persons by reason of the fire in Ringling Brothers, Barnum & Bailey Circus, July 6. Two were held in bonds of $15,000 each and three in bonds of $10,000. Formal pleas of not guilty were entered for each of the accused. . . . After believing it had been controlled a forest fire near Calverton (L. I.) broke out again and burned over 2,000 acres. Two firemen who collapsed in the flames, were removed by their comrades. . . . We're glad to note by the press that Bridgewater (Iowa), which lost its fire-fighting equipment in a blaze has replaced the truck and hose, the money being raised by popular subscription. S'matter of fact the local folks are now talking about erecting a nice new townhall, or some permanent civic abiding place for the apparatus. . . . When the coal oil water heater in the home of Mrs. Dwite Dugger kicked up recently, it looked like the makings of a conflagration. S-o-o-o-o she summoned the fire department and who should come driving up with the apparatus but *Mr.* Dwite Dugger. Bro. Dugger, local Vamp, attended to everything in short order. . . . Nearly 500 men, most of them soldiers, toiled at fire lines in the Roosevelt National Forest to check a fire which blackened 1,500 to 2,000 acres of timber. Barriers were dug and plowed, and this, with a fortuitous shift in wind mercifully aided the tired fighters. . . . In another fire, in New Jersey, it became necessary to close 12,000 acres of wooded areas of Bear Mountain Park because of fires that have been burning in the woods and the prolonged heat spell which threatens disaster. One of the fires is the underground type in smoldering humus, which is being controlled by digging trenches down to bedrock. . . . *Collections for the purpose of acquiring a fire truck for Town of Charter Oak, (Iowa), are reported to have speeded up when the Collector of Internal Revenue wrote the Farmers State Bank, that place, that contributions constitute allowable deductions as contributions within the meaning of Section 23 (o) of the Internal Revenue Code."* (Thanks "Old Reader"). . . .

* * *

Fight Fire with "Frog"

That man J. Stevens, of San Francisco, and pernts West, North, South and everywhere, gets into the limelight. Latest comes in form of an item in the Little Rock (Ark.) Gazette, which recounts as follows:

"A new principle of fire-fighting for use after the war will require less rather than more water in combating fire with a 'frog', J. W. Stevens of San Francisco executive secretary of the International Association of Fire Chiefs, said here last night."

* * *

Hit by Fireball!

In St. Louis (Mo.) Clarence Brown Jr. was in a sandlot game and was hit by the ball. He was treated for burns at a hospital. Seems that the ball had struck a pocket in which he carried matches! Deponent saith not who put Clarence "out" but we'd call that sort of accident a "base" hit indeed.

"he missed his footing stepping from a window to the fire ladder"

An

ATLAS

LIFE NET

could have saved him

A navy man needlessly lost his life in this hotel fire recently, when he missed his footing in stepping from a fifth floor window to a fire ladder.

In this case and doubtless many others it is just good common sense to have an ATLAS net held under the ladder. Many chiefs insist on this and many lives have been saved by this simple procedure. More and more chiefs are recognizing the fact that a fire net plays an important part not only in rescue work but where falls like this occur.

When you spread a net—make sure it's an ATLAS—the finest, strongest fire net money can buy.

We have a new catalog on ATLAS safety equipment just off the press. If you haven't received your copy just drop us a card.

ATLAS SAFETY EQUIPMENT CO., Inc.

26 WARREN STREET ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ NEW YORK 7, N. Y.

BETTER BADGES

than you ever got before—

For the past 64 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now—because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

★

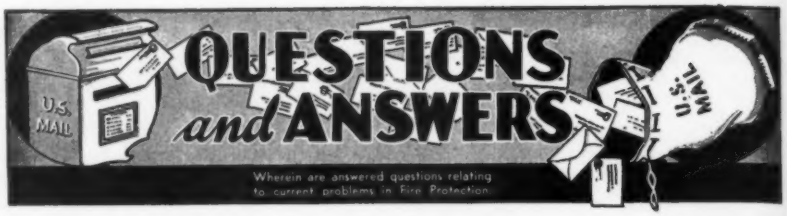
The blue covered catalog is the latest published but write for our new price list effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

★

C. G. Braxmar Co., 242 W. 55th St., N. Y.
John O. Veit, Pres.

BRAXMAR BADGES

Standard for over 64 years



Finding Discharge

To the Editor:

1,000-gallon pumper is pumping through 100 feet of 2½-inch hose equipped with a 1⅛-inch tip. Pump pressure is 120 pounds. How many gallons will this pump discharge?

F. H.

Answer: The solution to the problem is as follows:

Nozzle pressure equals engine pressure divided by (1.1 + KL).

K, which is a factor depending upon the nozzle and hose diameters is, for 2½-inch hose and 1⅛-inch nozzle, .167.

L, the number of 50-foot lengths of hose in the line is found by dividing 100 by 50, giving 2.

Then N. P. $= 120 \div (1.1 + .167 \times 2)$
$= 120 \div (1.1 + .334)$
$= 120 \div 1.434$
$= 83.7$, or 84 pounds approximately.

The discharge from a 1⅛-inch nozzle at 84 pounds pressure is 346 gallons per minute approximately.

This is secured from the following formula:

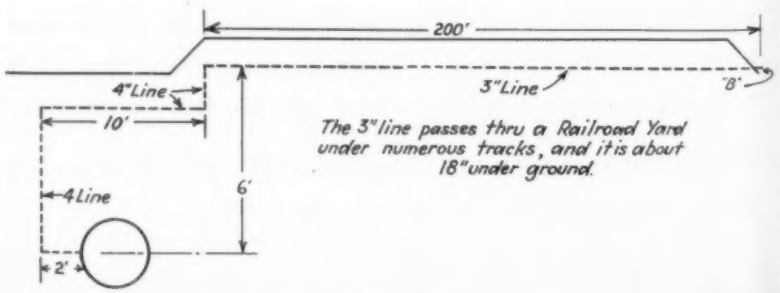
Discharge $= 29.7 \times d \times d \times \sqrt{P}$, where d is the nozzle diameter in inches and P, the nozzle pressure in pounds per square inch.

Then discharge $= 29.7 \times 1\frac{1}{8} \times 1\frac{1}{8} \times \sqrt{64}$
$=$ 346 gallons per minute approximately.

Capacity of Three-Inch Pipe

To the Editor:

Would it be feasible to set up either, a 400-gallon per minute rotary pump or a 600 gallon per minute centrifugal at the point indicated as "B" on the attached sketch, and draw water from the 30-inch main 218 feet away.



How many gallons per minute could we secure through this setup, and which would you consider as being the better pump to use?

The three-inch line passes through a railroad yard under numerous tracks, and is about 18 inches underground.

H. H. K.

Answer: The friction loss in 200 feet of 3-inch pipe where the flow is 600 gallons per minute is 118 pounds.

When the flow is 400 gallons per minute, the friction loss in 200 feet would be approximately 53 pounds.

Unless the pressure at the hydrant exceeded the friction loss as given above, the flows indicated could not be secured. In addition to above friction loss, allowance would have to be made for the drop in pressure of the hydrant, as well as residual pressure at "B", so that the pumper might be supplied.

Friction loss in pipe may be found from the following formula:

$$\text{F. L. in lbs. per sq. in.} = \frac{L \times Q \times Q}{2500\ D^5},$$

where L is the length of line in feet, Q, the flow measured in gallons per minute, and D, the diameter of the pipe in inches.

A 4-inch pipe would be far better than a 3-inch, and would probably enables you to get satisfactory streams on the other side of the railroad tracks.

Novel Fire Protection System

To the Editor:

I recently visited a friend who has bought and renovated a fine old farmhouse and we were very much concerned regarding the fire protection for that house.

In discussing the problem, I suggested it might be possible to hook a small pump up permanently with an artesian well using an old Ford engine for power. Do you think such a plan feasible? It is my thought that with a small pump and a fog spray he could probably take care of any ordinary fire from a bolt of lightning.

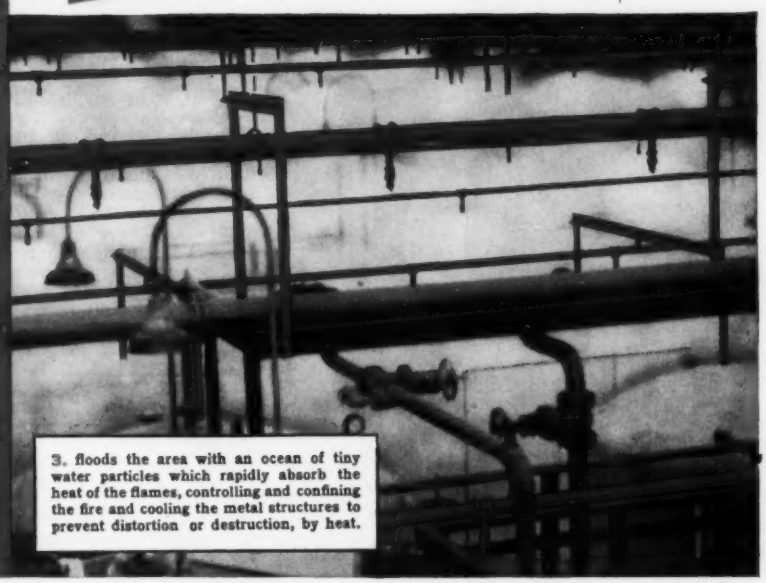
In addition to the artesian well, there are two other wells on the

WAR DEPENDS ON RUBBER—

SYNTHETIC RUBBER depends on . . . WaterFOG

1. A leak permitting escape of highly flammable vapors from these huge butadiene and styrene production tanks . . . a spark . . . and the entire area of this important synthetic rubber plant would be threatened with destruction . . . EXCEPT FOR

2. . . . the fact that this synthetic rubber plant is protected by the most effective method of cooling and confining fires in highly flammable vapors or liquids. Release of WaterFOG (two systems going into operation in this picture) . . .



3. floods the area with an ocean of tiny water particles which rapidly absorb the heat of the flames, controlling and confining the fire and cooling the metal structures to prevent distortion or destruction, by heat.

Rockwood WaterFOG

strips flammable vapors of their threat

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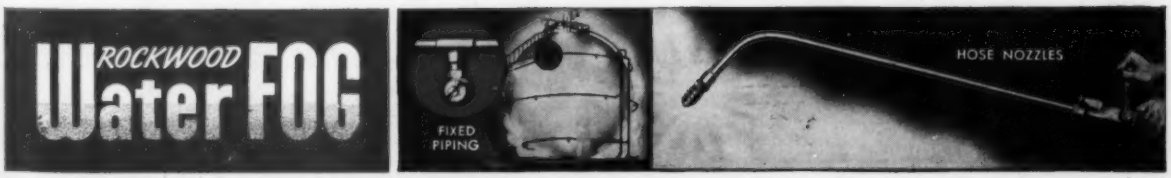

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premises which would be available for the local fire department when it arrived. We might also run an additional pipe from the artesian well so that it would be available to hook up with the fire department in the event that anything happened to the permanent pump and Ford engine.

R. B.

Answer: The effectiveness of a pump hooked to an artesian well, as fire fighting equipment, would depend almost entirely upon the rate of flow of water from the well. Unless the flow were large, the pump would "run away" from it. A far better plan would be to build a cistern into which the water from the well would flow. In this way you would have a sufficient static supply of water to handle any ordinary fire.

A Ford engine hooked to a small pump would give a satisfactory supply for a fire caused by lightning. Such fires usually start comparatively small.

Where used by the local fire company, a flow would have to be in the neighborhood of a minimum of 100 gallons per minute, even to use one of the smaller tips. Unless the flow is of this amount, it would be better to do as above suggested, namely, build a cistern to serve as a static water supply.

Spontaneous Ignition of Decayed Wood

To the Editor:

A fire which apparently originated within a rotted section of the wood sill surmounting the foundation, occurred in a frame dwelling. What is the susceptibility of rotten or decayed wood to the phenomenon we call spontaneous ignition? A. E.

Answer: There is always the possibility of the presence of foreign materials which might expedite spontaneous ignition. For instance, the particular timber involved might have been partially impregnated with vegetable oil, and this certainly would lend its aid toward spontaneously igniting the member when sufficient temperature was built up by the rotting (slow combustion) of the wood.

I know of no instance in which decayed wood alone has been charged with spontaneous ignition, although that does not mean it has not happened. It is possible that under closely controlled conditions, decayed wood might ignite spontaneously, but it is evident that such conditons are rarely reached.

Relative Merits of Linen and Rubber-Lined Hose

To the Editor:

What are the relative merits of linen and rubber-lined hose. The size of the hose referred to is 1½-inch.

W. G.

Answer: The cotton rubber lined hose is much more satisfactory for fire department use than the linen hose.

In the first place, the friction loss in linen hose is 2.1 times that of rubber hose.

Thus, if the hose line is carrying 70 gallons a minute, the friction loss in 100 feet of 1½-inch rubber lined hose would be 17 pounds, while if 1½-inch linen hose were used, the friction loss would be 37 pounds. In other words, at a given engine pressure you can pump water through a stretch of rubber lined hose over twice the length of that you could pump through linen hose, and still have the same nozzle pressure.

Furthermore, linen hose is a little harder to take care of than cotton rubber lined. Linen must be dried thoroughly after each use and kept dried at all times.

Of course, it is easier to handle because it is lighter, but this factor, it seems to us, is minor compared to the better performance the rubber lined hose gives.

Two Pumpers on Deluge Set

To the Editor:

A pumper is pumping into a two-way deluge set. Pump pressure is 100 pounds.

A second line is ordered into the deluge set from a second pumper. Is it proper to use two pumpers into a deluge set?

Can the second pumper open the clapper valve on the deluge set? If so, how could this be accomplished?

M. J. K.

Answer: It is satisfactory practice to connect two pumpers to the same deluge set, particularly where the lines serving the set are long or where a very large tip is being employed, requiring the capacity of the two engines.

The second pumper can open a clapper valve on the deluge set by building up a pressure just a little more than the pressure being created at the set by the first pumper.

For example, if the pressure at the deluge set is 50 pounds, the second pump may have to build up to 55 pounds at this point before the clapper valve opens.

However, both pumpers can operate into the set if the pressures they deliver at the set are fairly near.

Monterey Park Firemen Get Permanent Promotions

What started out to be a motion to give temporary appointment at the city council meeting at Monterey Park, Cal. to Edward McElhannon and Herman Mendanhall as captains in the fire department, and Ivor Ward and Justin O'Sullivan as engineers, developed into the permanent appointment of the men to the position.

The unusual move was made when a member of the city council introduced the plan which would have asked the civil service commission to hold an oral closed promotional examination. He was overruled by other councilmen who quoted a recent ruling on the civil service law to the effect that all such matters were to be left in the hands of the Civil Service Commission, but the law was so worded that appointments could be made by examination, which could be either oral or written, or by appointment by the city council.

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE SETTING BY JUVENILES

THE discussion in this round table is a continuation of that which appeared in the August issue of FIRE ENGINEERING on fire setting by juveniles.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which appears in the box on the following page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40 Street, New York 18, N. Y.

Herman E. Gutheim, Chief, Cambridge, Mass.: We have had no fires directly attributed to juvenile delinquency, although we sometimes have dump fires said to have been caused by juveniles, which I doubt.

Last Spring we started a junior fire department for boys of twelve to fifteen years. We have quite a successful organization. They report once a week and drill with our equipment. They have had a lot of fun and so have we. They have been quite a help a number of times, and I recommend this idea to any chief. I am sure he will find the idea practicable.

Homer F. Lyles, Chief, Houston, Tex.: We have not noticed an increase in fire setting by juveniles but the pulling of false alarms by this class has increased about ten per cent.

A. F. Taylor, Chief, Richmond, Va.: We have had no appreciable increase in this trouble. Of course we still have the pulling of false alarms by boys and the setting of field fires, but this has not appreciably increased.

Howard Travers, Chief, Baltimore, Md.: Setting of fires by juveniles has increased ten per cent in Baltimore.

A complaint is made to the proper officials of the Juvenile Court of all cases of juveniles between the ages of eight and sixteen years causing fires. The children are summoned and given a hearing before the judge of the Juvenile Court, who renders a decision in all cases.

In case of juveniles under eight years of age, who cause fires, they are warned by the officials of the Fire Department and Police authorities, in the presence of their parents, as to the danger and hazard of fires. In the event of a repetition of the complaint, the child is summoned to the Juvenile Court, and after an investigation by the Court, if it is found that the parents are neglectful in the care of the children, they may be charged as contributing to the delinquency of the child, and the proper legal action taken in each case.

The methods pursued in Baltimore have proven very successful. We do not have a single case of a child repeating the act after the child and parent have been warned of the dangers of fire.

A decrease of seventeen per cent has been noted during 1942-1943 in the number of juvenile cases compared with the years of 1940-1941.

Olander Lind, Chief, Kansas City, Kans.: The current problem on fire setting by juveniles is indeed timely and one worthy of discussion by the fire officials of this country because it presents a distinctly different problem from that of the adult arsonist for which most states have definite laws and penalties.

Our experience in Kansas City, has been that there is a definite increase in juvenile delinquency, yet in only one or two instances has the child actually set fires to which our department has had to respond. Fortunately these were quickly extinguished with but little loss. It was easy to determine that it was the work of amateurs because of the method employed to start the fires. One such case was a twelve-year-old boy who set six separate fires in one block before we finally apprehended him. We discovered that this lad was not a delinquent who was the result of the war or the lack of parental supervision, but was just the arrogant bull-dozing type of boy that seemed to be possessed of the devil and had no respect whatsoever

HERE IS THE QUESTION

Have you noticed an increase in fire-setting by juveniles incidental to the general growth of juvenile deliquency which has been taking place since this nation entered the war?

If so, what per cent increase (approximately) has been experienced over pre-war years?

If you have been confronted by the problem, what steps did you take to remedy it, and what were the results?

What method, or methods, would you recommend to others for controlling the problem.

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for law and order. Needless to say, he is now a ward of the juvenile court.

Our greatest problem has been with minor children who have been left to care for themselves while their parents work in war industries. They have sent in a flood of false alarms. This proved very troublesome to us because with the dial telephone it is very difficult to check the number of the phone turning in the alarm. The Chief of our Bureau of Fire Prevention has always differed with the telephone company in that the company wants our school children taught to dial our fire alarm circuit. He has refused to do so and has instructed the school children of our city to dial the operator which only necessitates one operation, whereas the company method calls for six operations, providing the dial is visible, which in smoke-filled buildings or rooms seldom is. We have checked back on some of these calls because when the operator is in on the circuit with the person turning in the alarm, she can keep that connection up until she ascertains the number of the phone. Then, of course, we get the address and make a personal investigation.

As for our method of handling this problem, the Chief of the Bureau of Fire Prevention has worked out a plan with the Police Department whereby a police cruiser with two police officers picks him up and they go to the suspect's home. It is agreed between him and the police that the police are to immediately get tough and demand that the boy be placed in the reform school and he will defend the child, humor him and talk to him more like a brother stating that the firemen like all our school children and don't like to see any of them become bad boys, and that if the child will confide in him and tell him the truth and promise to stop turning those false alarms that he will protect him this time, and this time only, and will see that the police do not send him to the reform school. The result is that the Chief of our Bureau of Fire Prevention immediately becomes a friend of that child. He then asks that child to become his juvenile fire prevention man and discourage any other children who plan to turn in false alarms.

In the final analysis I believe that this plan is paying us great dividends inasmuch as it was not uncommon for us to have six or seven such alarms during a week, whereas now when the children are enjoying their summer vacations and you would naturally expect them to increase, the fact remains that the false alarm problem has apparently been completely eliminated for we have not had a single false alarm for the past four months.

I fully realize that every chief of a fire department has his own ideas regarding juvenile delinquency, and I am merely offering my experience and that of my department with regard to this question. However, I firmly believe that with juvenile delinquency on the incline, now more than at any other time, the firemen of this country should exert every effort to be the true friends of children and endeavor to gain a greater degree of cooperation from the one group that has done more to help reduce our annual fire losses than any other, the American school children.

HERE IS THE QUESTION FOR THE NEXT ISSUE

To what extent do you use spray nozzles (fog nozzles in your department?

Have you found them effective?

On what types of fires are they used?

What advantages do you feel they possess over solid stream nozzles in operating on basement or other inside fires that have not gained such headway as to make imperative the use of solid streams?

George T. Morgan, Chief, Wilmington, Dela;; John C. King, Chief, Hartford, Conn.; Edward H. Siller, Chief, Yonkers, N. Y.; R. W. Hitchings, Chief, Flint, Mich.; and Thomas H. Cotter, Chief, Providence, R. I., report there has been no increase in fire setting by juveniles in their cities.

C. J. DeFields, Chief, Windsor, Ont.: I have no hesitation in saying that there has been a very marked and definite increase in fires, false alarms, and other acts of a criminal nature affecting the fire department and directly traceable to juveniles during the war period.

While I do not believe that any great number of fires arising from this cause have been set with criminal intent the resulting loss has been just as great and the wear and tear on men and equipment resulting from useless runs, whether intentional or otherwise, has been just as serious.

I believe, and this belief is based on a thorough investigation that owing to the fact that fathers, mothers, older sisters and brothers are all engaged in some type of war work the junior members of the family are left without supervision for the greater part of the twenty-four hours of the working day, during vacations and after school hours and that they are taking advantage of the opportunity to do things that previous to the war they sometimes hoped they might be able to do but would not under normal conditions.

I sometimes wonder what takes place in the mind of the juvenile who commits a minor offense, perhaps is apprehended, and then gets away with it. Will the fear of punishment disappear all together and be replaced by a psychology that will encourage a more serious offense, and will this state of mind continue after the present emergency? If it does, we certainly have a fine crop of potential hoodlums in the offing. In this city the mischievous acts of this type of juvenile have not been confined to the fire department only. Extensive damage running into the thousands has been done to park and playground equipment, street lighting fixtures, shrubbery and flower beds and other public property. The offenders in many cases are boys and girls between the ages of twelve and sixteen.

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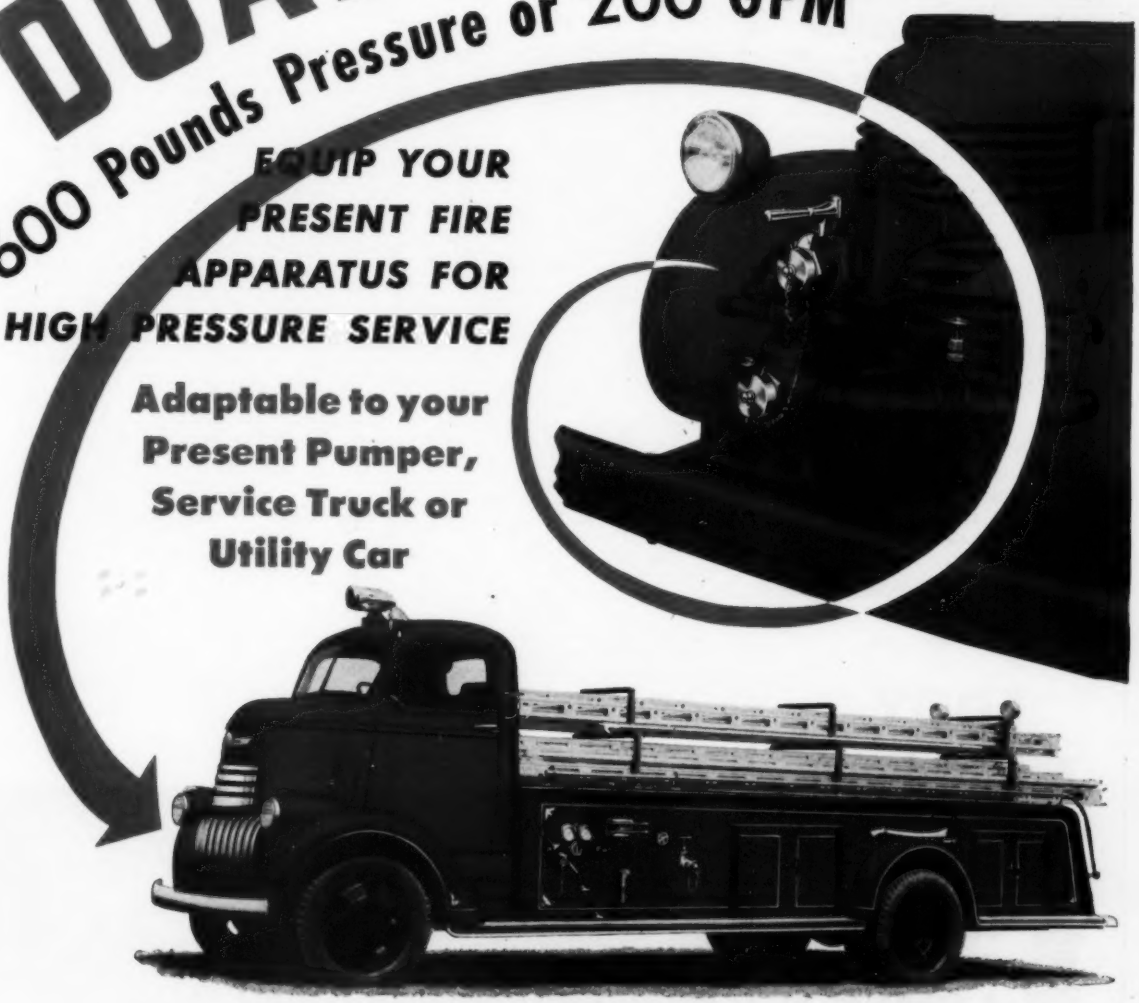

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We have not, up to the present time, found any effective means of curbing their activities. We have worked through the school principals who have been very cooperative and also through the juvenile courts and other agencies. A few have been punished but as juvenile court cases do not receive any press publicity, our efforts have not met any appreciable degree of success.

Juvenile courts do not consider a boy or girl under the age of sixteen responsible for their actions, yet the evidence of the same boy or girl, and even younger, is taken where a man's life is at stake.

In my own opinion, a good old fashioned whaling with a strong leather strap would be a very effective remedy for the disease. When we awaken to the fact that in spite of the efforts of the different agencies, including juvenile courts, to eliminate juvenile delinquency, juvenile crime is increasing at an alarming rate, then I believe you will agree that a few applications of the above mentioned remedy to the base of the spine would be at least worth trying. I appreciate the fact that the sob sisters and other silk hatted agencies will disagree with me. However, I still believe it would be one answer to the problem.

Earl A. Traeger, Chief, Minneapolis, Minn.: Since the United States entered the war we have had about a thirty percent increase in fire setting and turning in of false alarms by juveniles. The ages of these children usually range from five to fourteen years. Most of them are boys, but we have had a few girls.

The Arson Squad of our department handles these cases. They find in the majority of the cases this delinquency is due to lack of proper parental supervision of these children. In many cases, both parents are working and the children are left to more or less shift for themselves most of the day. In other cases, the parents are too much engrossed with drinking and having a good time to properly supervise their children. In a few cases, the fault lies with the child in spite of proper supervision by the parents.

Our method of handling these cases is to have the parents bring the child to fire department headquarters, where the seriousness of his act is explained to him. We cite the fact that in practically every case where the fire department is involved in an accident and some fireman is killed, they were responding to either a false alarm or an incipient fire. The parents are told that if these incidents continue, they will be brought into court and prosecuted. The children are usually talked to by a member of the Arson Squad in uniform, because we have found it makes a better impression on them. We exact a promise from them to stop playing with matches and setting fires, or turning in false alarms. We explain to the child and the parents that we are placing the child on probation to our office. This procedure has worked very well in Minneapolis and we have had only two repeaters in the last few years. We also try to sell the parents and the older child on the value of joining the Boy or Girl scouts. Our records show that over a period of eleven years, we have had only two or three cases involving this type of juvenile delinquency where the children belonged to the scouts. In cases where the child has a bad juvenile court record, we take them into court again for their action.

This problem can only be controlled by prompt investigation of all cases coming to the attention of the department, cooperation with all other law enforcement agencies and by continued publicity of the seriousness of juvenile delinquency.

T. Mulligan, Chief, Sacramento, Cal.: We have a very noticeable increase in juvenile fire setting of fifty-three per cent. This is based on an average of two years previous to our entry in the war.

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Firemen on the Wildwood boardwalk are silhouetted against flames of the Hunt movie theatre as they battled a general alarm fire on August 12. An entire block was burned.

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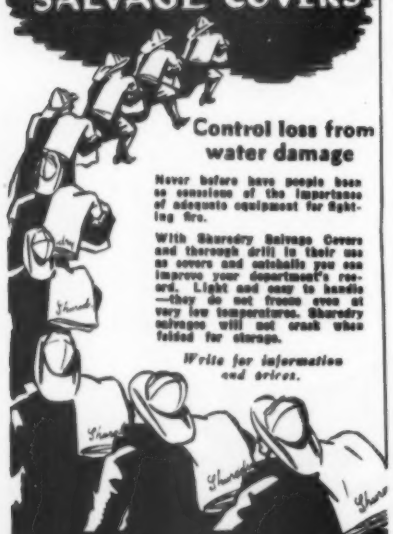

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The Sacramento Fire Prevention Bureau contacted the various youth organizations in the city and appeared before them showing motion pictures depicting the danger of setting fires and what the outcome is in the loss of property and life to their community. A regular fire prevention program is presented throughout the schools in the city and emphasis placed on the necessity of reducing fire hazards.

Each case is investigated by the Chief of Department and when necessary, cases are turned over to the Arson Squad of the Sacramento Police Department. As a result, a ten per cent decrease has been experienced as of June 30, 1944.

C. L. Ligon, Fire Marshal, Fort Worth, Tex.: We have experienced an increase in juvenile fire setting of fifty-four per cent. The increase in this class of fires is generally the result of the parents being employed and leaving children unattended, with no supervision, permitting them to roam at will.

Our efforts to curb this willful mischief have not been very successful. We have tried different methods, using one which might fit the individual case. In some instances it has been necessary to get the cooperation of the Juvenile Department, which has given us some assistance. Some children have been brought to the office where they are reprimanded and given a lecture explaining the seriousness of their crime and what the results might be. The children are usually turned over to their parents who are asked to give the offender stricter supervision.

I have come to the conclusion that the most effective method would be to include this subject in the curriculum of the public schools. At this time in Fort Worth fifteen minutes must be given to the study of fire prevention each week in our schools. The subject in question if applied in the proper manner in connection with the regular fire prevention course, I believe, could accomplish much good.

Edward J. Cannon, Chief, Norfolk, Va.: There has been no decided increase in juvenile fire setting within the past year in Norfolk. During the past year, we have only had three cases, one of which occurred recently. The two boys involved were nine and twelve years of age and were turned over to the juvenile authorities here. They set fire to a tool shed in the rear of the Granby High School. They were apprehended as follows: Upon investigation by the deputy chief answering the alarm, it was found that the two boys had been seen near the shed. The Crime Prevention Bureau was notified and immediately sent a police radio car to the home of these boys, who upon their own statements were given a preliminary hearing before the juvenile authorities and remanded to the custody of their parents, prior to their regular appearance in the juvenile court.

One reason for the very few cases of juvenile fire setting is the method by which Norfolk handles a juvenile problem of this kind. The officers of this Division, working in cooperation with Deputy State Fire Marshal for this district, and with the Crime Prevention Bureau of the local Police Department, and the Juvenile Court, make a prompt investigation of all fires which come under this classification. This has resulted in the almost perfect record for such fires. Such cases are tried in the juvenile court, and every effort is made to prevent the recurrence of the crime. The records for the past five years show that in Norfolk the juveniles who commit such offenses are, for the large part, either of low mentality, such as should be confined to some institution, or of such an age that they can be dealt with through the Children's Bureau and the Crime Prevention Bureau, and their parents made to realize the seriousness of the act committed and also to provide proper supervision.

In closing I would like to compliment the close cooperation and quick action by the Deputy State Fire Marshal, the Crime Prevention Bureau, and the excellent and efficient judge of the juvenile court in dealing with this problem. These officials have given much time and thought to the correct approach to the problem, and the low fire record for the juvenile-incendiary type of fire attests to this.

Joseph A. Kirby, Chief, Dayton, Ohio: The average number of fires caused by children for the four years preceding the war total fifty-seven.

The average number of fires from the same cause for the two full war years totals eighty-seven. This is a percentage increase of 4.8 per cent.

This year, to date, the fires from this cause total fifty-four, indicating that they are still on the increase. During the latter part of 1943 and early part of 1944, a series of garage fires were set by children. The Fire Prevention Bureau interviewed a number of suspected children and their parents. Fires in these neighborhoods due to this cause have since been abated.

Subsequent action by fire officials and juvenile authorities will reduce the number of fires.

J. F. Healy, Chief, Denver, Colo.: Denver, like other cities engaged in the expanded wartime production program, has had some juvenile delinquency problems; however, they have not reached alarming proportions at the present time.

In the two or three years previous to the present one, numerous wild grass and weed fires have been directly traceable to youthful pranksters. However, this year, due perhaps to a considerable amount of rainfall and the resultant lack of dried weed lots, this problem has not evidenced itself.

Playgrounds with paid supervisors, established by the city under a recreational director and utilizing public school facilities, have been the means of allowing the youth of the city to gather and occupy their time in wholesome entertainment.

Likewise, under the leadership of the "Old Timers" Baseball Association (a group of local residents and former baseball enthusiasts) baseball teams sponsored by local business firms and organizations have been formed. These teams include a great number of boys of all ages. They are thus able to learn the game from qualified coaches and to participate in competitive games and leagues.

HANDCUFF

TREACHEROUS PETROLEUM FIRES

with **3 TONS** of Carbon Dioxide on Wheels

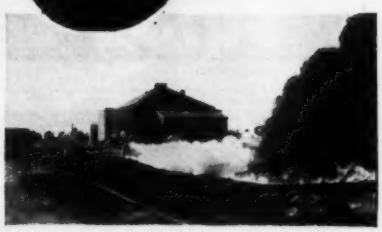
In most places where petroleum products are processed, piped or stored, there's a job for one or more Cardox Fire Trucks. Armed with 3 tons of zero-cold, fast-acting carbon dioxide . . . powered to reach any part of the plant quickly . . . a Cardox Fire Truck goes into action fast with a tremendous mass discharge of more than 1400 pounds of cold, inert carbon dioxide per minute.

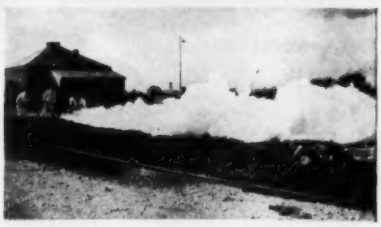
Gives Coverage Heretofore Beyond the Scope of Mobile CO_2 Equipment

With this combination of ample supply of quick fire-extinguishing carbon dioxide, a self-contained, instantly available mobile fire fighting unit, and two 100-ft. hose lines, you are equipped to stop even relatively large fires before they reach disaster proportions. Equally important, *numerous* smaller hazards, requiring proportionately smaller extinguishing applications, can be given *uninterrupted* protection with a single filling of Cardox CO_2.

Mobilizes Basic Advantages of Cardox Fire Extinguishing Systems

Pound for pound, carbon dioxide is one of the most effective extinguishing media for oil and gasoline fires. Cardox methods in control and application still further enhance its extinguishing performance.





Approximately 165 gallons of gasoline in a pool 16 x 30 feet. Gasoline allowed to burn until fire reached maximum size and intensity. Mass discharge of Cardox CO_2 from 2 Cardox Fire Truck nozzles extinguished fire burning over 480 square feet in 25 seconds.

Cardox CO_2 has uniform characteristics regardless of plant or atmospheric temperatures. High CO_2 "snow" yield provides increased cooling effect (carbon dioxide released at 0°F. yields approximately 45% CO_2 snow with a temperature of minus 110°F.). Greater density of the Cardox discharge enables more effective projection through relatively long distances, indoors or out.

Write on company letterhead for Bulletin 1994.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS
District Offices in
New York, Boston, Washington, Detroit, Cleveland, Atlanta, Pittsburgh, San Francisco, Los Angeles, Seattle

CARDOX
CO_2 FIRE EXTINGUISHING SYSTEMS

Fyr-Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasize the urgent need of fire protection. A Fyr-Fyter Instant will usually check most any fire if used immediately.

HELP SAVE LIVES AND PROPERTY

Get Fyr-Fyters for safety's sake. We advise and serve war production plants, public institutions, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER COMPANY
Dept. 101, Dayton 1, Ohio

ARMY (E) NAVY WAR BONDS

Fyr-Fyter

THE *New* WHEAT *Rechargeable Spotlight*

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to Insure Availability

FEATURES

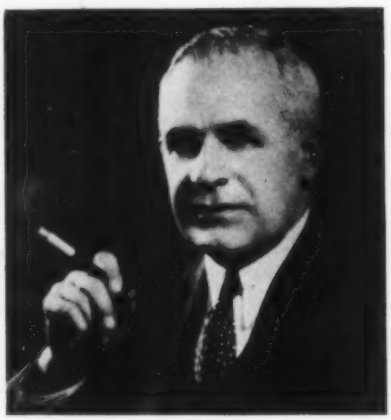
- ★ Positive "non-spill" Construction
- ★ Less expensive Operation than dry cells
- ★ Free use of Hands. Light carries conveniently on Shoulder Strap
- ★ Weighs only 92 ozs. complete
- ★ Simple to Charge and Water No need to take Lamp apart
- ★ Light can be Focused and Directed as Desired

WRITE FOR COMPLETE DETAILS

KOEHLER MANUFACTURING COMPANY, INC.
MARLBORO, MASSACHUSETTS, U.S.A.

Bob Anderson Dead

Robert C. (Bob) Anderson, Vice President of the Buckeye Iron & Brass Works, of Dayton, Ohio, and one of the country's best known fire buffs, died suddenly on August 27th, at the age of 60. He passed away in his sleep a few hours before he was scheduled to leave on a trip with Fire Chief Kirby of Dayton, to the Grand Rapids Conference of the International Association of Fire Chiefs.



Bob Anderson

Mr. Anderson, one of Dayton's most prominent industrialists and an active civic leader, was associated with the Buckeye Company for thirty-five years. He was also a Director of the Home Savings and Loan Association, a Director of the Dayton Automobile Club, and a member of the Gasoline Rationing Board of Montgomery County. He also served as a member of the Miami Valley Hospital Board, Vice President of the Dayton Chamber of Commerce, Chairman of the Chamber's Fire Prevention Committee, and a member of the Dayton Metropolitan Area Traffic Commission.

Bob, as he was familiarly known by his many friends, was renowned not only as a fire fan but also as an amateur magician, both of which were his outstanding hobbies. He was one of the founders of "Box Seven," a local fire fans' organization, and also served at one time as President of the International Brotherhood of Magicians. Those who knew Bob or met him at any of the numerous fire chiefs' conventions he attended will remember his side-splitting story-telling sessions as well as the many tricks of magic that he performed.

Surviving are his widow, a son who is a Lieutenant in the U. S. Army, a daughter and two grandchildren.

Firebug Sets Department Store Fire

When the largest department store in Gastonia, N. C., burned on August 21st, Charlie Foster, 20, of Belmont, N. C., helped the firemen to check the flames and save the business district of the great textile center. Overcome by smoke, Foster was "rescued," and later, reclining in the Gaston county jail, confessed that he set the fire that caused damages estimated at $200,000.

The fire broke out at 1:15 P.M. in the basement of the Matthews-Belk Company, one of the numerous branches of the famous Belk Company parent store of Charlotte, N. C. As employes of the store rushed to the scene, other fires broke out in other parts of the store. Foster, according to officers of the law, confessed to setting a dozen different fires in the store, which turned the large department building into an inferno of flames. As the fires raged Foster remained at the scene and promptly joined the firemen in fighting the fire. His being overcome by the smoke and fumes during his almost super-human efforts as a fire fighter drew suspicion, and he was arrested when he came to. Fire Chief George MacManus says Foster re-enacted events leading up to the holocaust, but gave no motive why he set the fire. Firemen with a monumental job on their hands finally succeeded in bringing the flames under control about 2 o'clock, some 45 minutes after the blaze was first discovered.

Dan Webster, city fireman, of the No. 2 station crew, was slightly injured when he fell from a ladder at about the second story level. He suffered painful bruises but no serious hurts, the fire department reported.

D. G. SPENCER.

Dr. John O'Shea Honored

Dr. John H. O'Shea, fire department physician of the Spokane, Wash., Fire Department, was recently honored at a testimonial dinner marking the thirty-fifth anniversary of his association with that department. More than 750 friends attended.

Dr. O'Shea is well known throughout the country for his activities on the Judicial Council of the American Medical Association.

The doctor has been taken for granted as an integral part of the fire department for so long that no one is ever surprised to find him right in the thick of things. He is always on hand for multiple alarm fires and his personal automobile has always been kept at a centrally located fire station.

Louisiana Passes Law

Governor "Jimmie" Davis of Louisiana has signed House Bill 478 giving to the Fire Marshal's Office the necessary authority to protect the public in places of public assembly.

The new law, which was inspired by the Ringling Brothers, Barnum and Bailey Circus tragedy, gives the State Fire Marshal's Office authority to enter and investigate, and, in the event that means of ingress and egress are inadequate, or whenever such officers shall find in or upon such premises any combustible or explosive materials or inflammable conditions dangerous to the safety of any person, they shall order such material removed and the conditions of the premises remedied.

Watertown, N. Y.—As a post-war project, the City of Watertown is planning construction of an additional fire station.

Charlotte, N. C.—City Council to purchase site for a new fire station in Midwood Section.

NOW AVAILABLE

MIDWESTERN *Fireman's*

Rubber or *Canvas*—COMBINATION SUIT

Special combination suit with Bunker Pants is Midwestern's Outfit No. 101. Detachable wool linings. Flexible elastic inner sleeve for wrist. Keeps out water, cold and sparks. Equipped with Midwestern Safety Snap, a new exclusive feature. Can be easily and quickly fastened or unfastened—nothing can catch on it. Will not freeze or jam as easily as old type snap. Midwestern garments are favored by the larger municipal departments throughout the country. Write for literature and prices.

THE COAT:

- Adjustable collar strap
- Reinforced collar band for lining
- Lining attached with quick snap buttons
- Corduroy lined collar
- Reinforced, double stitched seams
- Vertical seams in sleeve shoulders
- Inside of fabric, heavily napped cloth
- Two outside pockets
- Wool detachable lining
- 6-inch storm flap

REGULAR FIREMAN'S BOOTS NOW AVAILABLE

Fireman's boots ¾ length, reinforced instep, felt linings. Do not confuse these boots with reclaimed boots which have been offered firemen for past 2 years. These are regular fireman's boots made of the new synthetic rubber. Write.

See your Midwestern Mfg. Co. representative for catalog and prices, or write the factory.

THE PANTS:

- Lining held by snap buttons
- Rubberized fabric belt in lining
- Eight suspender buttons
- Safety snap on belt
- Two side and one hip pocket
- Reinforced adjustable belt
- Special Vanitex fabrics
- Wide protecting flap
- Reinforced by rivets

MIDWESTERN MFG. CO., MACKINAW, ILLINOIS

QUAKER
FIRE HOSE

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Chemical
Hose

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Forestry
Hose

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Suction
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QUAKER QUALITY

REG. U. S. PAT. OFF.

QUAKER RUBBER CORPORATION
Main Office & Factory: PHILADELPHIA 24
New York 7 :: Chicago 16 :: Cleveland 15
Houston 1
Western Territory

QUAKER PACIFIC RUBBER COMPANY
San Francisco 5 :: Los Angeles 21

"The Superior"
A MODERN and PROVEN
LIFE NET

The SUPERIOR LIFE SAVING NET is stronger than any other, because of the tested breaking strength of 1,800 lbs. of each individual rope.

The direct pull shock absorber system eliminates all friction and its greater resiliency provides for a safer, easier landing.

Made of Chrome Molybdenum steel, the frame may easily be folded for storage within a few seconds.

For the utmost in LIFE SAVING VALUE . . . "SPECIFY SUPERIOR".

For ECONOMY, have your old net converted into a "SUPERIOR".

Other
SUPERIOR Products:
Training Nets and
Structures
Ladder Belts
Life Size Training Dummies

William Moeller
Designer
Consultant

SUPERIOR FIRE
EQUIPMENT CORP.
235 E. 42nd St. New York, N. Y.

Ex-Chief Glenn Huffstetler Dies

Former Chief Glenn Huffstetler of the Maryville, Tenn., Fire Department died suddenly of a heart attack on June 26, in Atlanta, Ga. He had gone there on a business trip and took sick in his hotel room just a few hours before his death.

Chief Glenn Huffstetler

Chief Huffstetler was appointed head of the Fire Department by the Board of Commissioners in 1918, and served in that position until his retirement in 1936. During his eighteen years as head of the department many improvements were brought about, the department advancing from a hand drawn hose reel to a modern motorized department. It has been considered for many years one of the most modern semi-paid departments in the State of Tennessee.

Chief Huffstetler was president of Huffstetler & Company, a large lumber and building supply business and also owner of the Greenback Mills. He was very active in civic affiairs, being the past president of the local chapter of the Red Cross and past president of the Chamber of Commerce. He was a member of long standing in both the Southeastern Association of Fire Chiefs and the International Association of Fire Chiefs, and a charter member of the Tennessee Firemen's Association.

Surviving Chief Huffstetler are his widow and one son, William L. Huffstetler, who is assistant chief of the fire department of the Manhattan District U. S. Army Engineers project at Clinton, Tenn., and now on military leave to the U. S. Army and acting as a fire fighting instructor for Army fire fighters.

The Fireman—Superman!

He must—

Be as brave as a lion, as strong as an ox;

Possess the eye of an eagle, the sagacity of a philosopher, the hide of a rhinoceros, the tenacity of a bulldog, the meekness of a dove, the patience of Job;

Be prepared to be blown up, knocked down, gassed, burned and buried alive, shattered, splattered and flattered;

Be ready to act as wet nurse, dry nurse, doctor, undertaker, house-breaker, ameliorator, amalgamator, expediter, coordinator, diplomat and—

Be agile, servile, deaf, dumb and unconscious, if necessary;

Be able to speak English, use a telephone, be guide, counselor and friend, offer advice, and suffer criticism without retaliating—

Providing he can fill the bill he may, if he can stick it, some day in the dim distant future die and get his name on a roll of honor!

Adapted from the "Collecting Head."

Promotion Made

Promotion of Walter N. Schell from second deputy fire chief to the post of first assistant in the Watertown, N. Y., city fire department became effective Aug. 1.

Assistant Chief Schell's advancement fills a position which has been vacant since June 1, 1942, when First Assistant Chief Emmett G. Carpenter retired. The promotion followed a non-competitive civil service examination.

At a later date fire captains in the Watertown department with six months' service in that rank will take civil service examinations to become second assistant chief.

SANFORD D. DEWEY.

Courtesy of Milton Brinin

Auxiliary Firemen of Engine 217, New York City

This active company of auxiliary firemen was organized in June, 1941, and is regarded as one of the most active and best drilled in the New York Fire Department.

EASTMAN

FIRE FIGHTING PRODUCTS

120 Years Service in the Fire Field

WHEN you specify and get an Eastman product, you are getting the very best the field offers. Years of experience in building fire fighting products is your assurance that you are getting a product that has been built of practical experience in the field, plus all the engineering skill that a background of 120 years' service gives us.

Get the best — get Eastman when you buy!

Two-way Gun furnished with or without gate.

While we are now busy with Government work, we welcome your inquiries and will be glad to make shipment of any product on proper priority.

SAMUEL EASTMAN COMPANY, INC.

CONCORD, N. H.

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and smal area third degree burns. Write for literature.

THE GEBAUER CHEMICAL CO.
9410 St. Catherine Ave. • Cleveland 4, Ohio

BOYER

Headquarters for
"DEPENDABLE"
FIRE APPARATUS and FIRE DEPARTMENT SUPPLIES

★

FORTIFY FOR FIRE FIGHTING

★

BOYER FIRE APPARATUS CO.
LOGANSPORT INDIANA

I. A. F. C. Conference

(*Continued from page* 640)

agencies and the fire service, resulting in harmonious relations so mutually beneficial, therefore, be it

RESOLVED, That this Association express its appreciation of such helpful cooperation, and, further be it

RESOLVED, That a copy of this Resolution be forwarded to the Commanding Officers of the Coast Guard, the Army and the Navy.

RADIO COMMUNICATIONS

WHEREAS, The fire losses of the Nation are increasing and in the next twelve months bid fair to exceed $450,000,000 with a potential loss in the next decade of $4,000,000,000 and more, more tragically, a loss in lives of over 100,000 persons from fire, and

WHEREAS, The fire service of the Nation, is undermanned and forced to utilize obsolete equipment — little new apparatus and appliances having been provided the Service since the war started, and

WHEREAS, It is essential to the welfare and economic stability of the Nation that this potential loss of lives and property be held to the minimum, and

WHEREAS, No inconsiderate amount of the increasing fire loss may be laid to the inadequate facilities of transmitting fire alarms of the nation, and of communication between fire forces on the fire ground, and

WHEREAS, Inasmuch as the Federal Communications Commission by virtue of its Regulations No. 84 dated May 9, 1944, has relaxed the restrictions so as to permit the cities of 150,000 and over to operate their own independent short-wave radio station and frequencies,

THEREFORE BE IT RESOLVED, That the International Association of Fire Chiefs in conference assembled this 31st day of August, 1944, does hereby tender its appreciation to the Federal Communications Commission and earnestly recommends that the Commission further revise its regulations to permit cities under 150,000 population that can justify the need of radio to have and operate their own independent short wave radio stations, as recommended by Committee Two of the Radio Technical Planning Board.

APPARATUS SPECIFICATIONS

WHEREAS, Industrial advance during the present world war has brought forth many products and processes which have brought with them unprecedented hazard to life and property,

WHEREAS, New developments in fire fighting have been brought about through experiences gained by municipal and federal fire departments in handling war time fire hazards involving these new products and processes,

WHEREAS, The demands and requirements of post-war fire appliances will warrant changes in the design and construction of fire apparatus, therefore, be it

RESOLVED, That the International Association of Fire Chiefs take steps to formulate and issue revised specifications for fire apparatus required to meet these new conditions,

RESOLVED FURTHER, That the Board of Directors be authorized to select a Committee for this purpose, and empower it to proceed with the preparation of such specifications, said specifications to be presented before the Association in conference assembled for approval prior to issuance.

SAFEGUARD PLACES OF PUBLIC ASSEMBLY

WHEREAS, The International Association of Fire Chiefs has observed with concern the regrettable succession of fires involving heavy loss of life during recent years, including such holocasts as the following:

	Lives Lost
Cleveland Clinic, May, 1929....	125
Columbus Penitentiary, April, 1930	320
New London (Texas) School, March, 1937	294
Natchez Dance Hall, April, 1940	207
Boston Night Club, November, 1942	492
Hartford Circus, July, 1944.....	167
With total loss of life of.....	1,605

and

WHEREAS, The majority of such tragic fires are preventable through the establishment and enforcement of proper laws governing construction, occupancy and fire protective measures, therefore be it

RESOLVED, That the International Association of Fire Chiefs, in conference assembled this Thirty-first day of August, Nineteen Hundred and Forty-four, go on record as urging State legislative bodies to enact such legislation as will insure the safety of the public in such places of public assembly, both institutional, educational, and entertainment, and be it further

RESOLVED, That a copy of this Resolution be directed to the Governors of the various States and the Provinces of Canada for their action.

FIRE LOSS RECORDING

WHEREAS, It is impossible to make an accurate estimate of fire losses due to the many factors involved that are beyond the control of the fire department; and

WHEREAS, The publication of fire loss records may lead to unjust comparison between cities and years of operation; and

WHEREAS, Fire loss records are detrimental to obtaining a budget sufficient for the proper operation of the fire department; and

WHEREAS, The inaccuracy of fire loss records is misleading to the public and may place the efficiency of the fire department in a false position; and

WHEREAS, The keeping of fire loss records is a useless expenditure of money, time and effort; and

WHEREAS, Fire loss records are not worth the paper upon which written under the present methods; now therefore be it

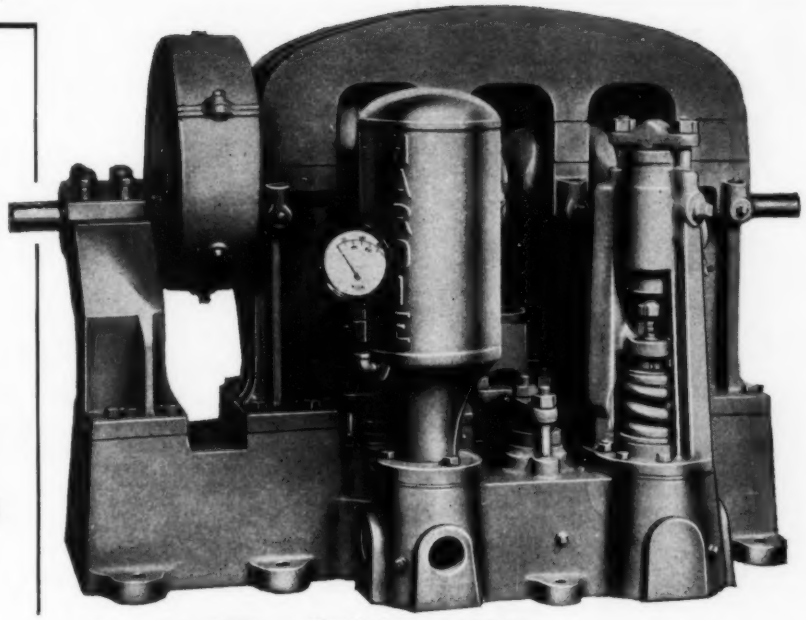
RESOLVED, Since the present methods of keeping fire loss records have no value, are inaccurate, confusing and based on items not comparable or equitable, and since it is impossible to develop a method to use for comparative purposes, we, the California Fire Chiefs' Conference, Southern Division, in conference assembled in the City of Los Angeles this 14th day of June, 1944, do recommend that the International Association of Fire Chiefs go on record recommending that cities keep their own fire losses in their own way and for their own purposes; and be it further

RESOLVED, That the International Association of Fire Chiefs go on record as being opposed to the publication of loss records; and be it further

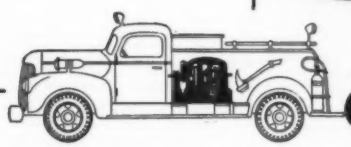
RESOLVED, That the National Fire Protection Association and the National Board of Fire Underwriters be requested to adopt the same policy.

In addition to the foregoing, a Resolution was adopted expressing the Asso-

600 800 P.S.I.



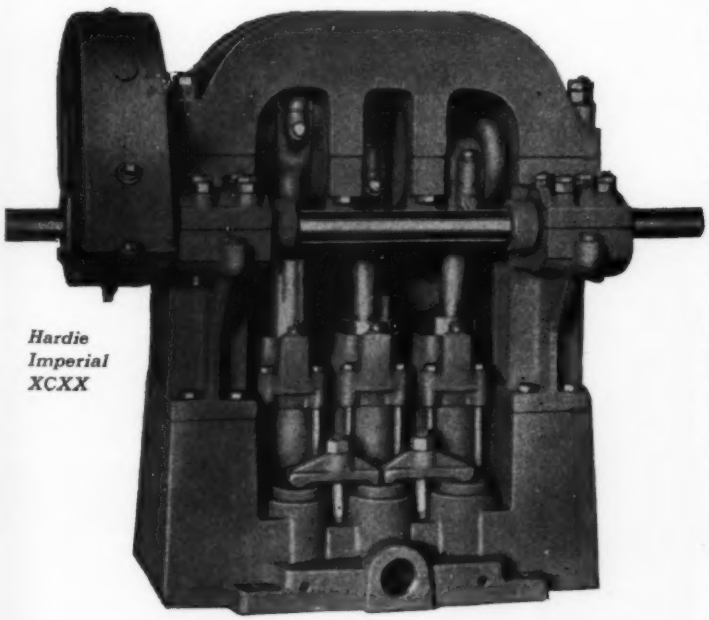
Hardie Imperial LCXA



Specify a Hardie

High Pressure Pump to get the high nozzle pressure you must have in the Fog Fire Fighter you buy. The big, strong vertical crankshaft-driven Hardie gives unfailing pressure and volume under all conditions of use because it carries the pressure load easily, at *slow operating speed*.

The Hardie Imperial Model LCXA Pump delivers 60 gallons per minute at 800 P. S. I. nozzle pressure when operating at 130 R. P. M. The Hardie Imperial Model XCXX Pump delivers 35 gallons per minute at 800 P. S. I. operating at 118 R. P. M. No need to "speed up" the Hardie to get the volume and pressure you want.



Hardie Imperial XCXX

The complete lubrication of the Hardie Pump saves power and wear. Hardie alone provides an oiling system by which even plungers and plunger cups run in a bath of oil. These are reasons why leading manufacturers of Fog Fire Fighting Equipment such as U. S. Army Engineers, The Mack Mfg. Company of Long Island City, N. Y., General Fire Truck Corporation of Detroit, Mich., Edgar Road Tank Works of Linden, N. J., and others employ Hardie pumps in Fog Fire Fighters they build. Specify the Fog Fire Fighter with a Hardie Pump.

THE HARDIE MFG. COMPANY

Hudson, Mich. Los Angeles, Calif. Portland, Ore.

★ H ★ A ★ R ★ D ★ I ★ E

High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

PARADISE BLANK-IT SPRAYS

have these features

APPLICATION

VOLUME

AREA

RANGE

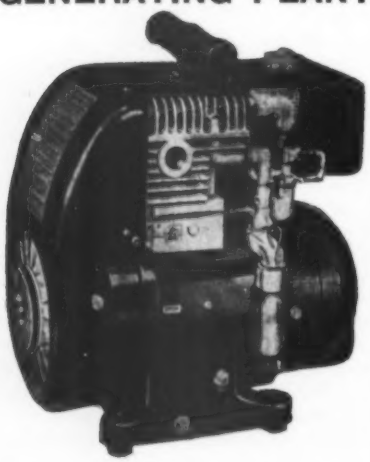
& LOW

OPERATING PRESSURE

Covered by U. S. Patents
1922259; Re. 19913; 2284443;
2292794; 2254751.

PARADISE MFG. CO.
3165 S. PENNSYLVANIA ST.
INDIANAPOLIS 44, IND.

PORTABLE
FLOODLIGHTING
GENERATING PLANT



This 1500 watt portable generator, with 25% reserve, especially designed for fire department service. Lightweight, rugged and compact. Air-cooled 4-cycle engine 2¾" bore x 2¾" stroke. Quick starting. Fully guaranteed, thoroughly dependable.

★ *Write for catalog* ★

SECURITY FIRE EQUIPMENT CO.
1550 Princeton Ave. Trenton, N. J.

ciation's gratitude to the City of Grand Rapids, its Mayor, George W. Walsh, host, Chief Edward C. Palmer, Fire Department, and his officers and men, Mr. Walter Sacks, City Manager, members of the Clergy, and all who contributed toward the success of the Conference.

The Resolution also thanked Mrs. Kathryn Counts, President of the Oren Fire Apparatus Company, Roanoke, Va., who served as hostess to the ladies of the Conference and to Mr. Fred B. Philbrick, President, Gamewell Company and his associates for again entertaining the Association.

Another Resolution proposing a change in the Association's dues was referred to the Board of Directors for action after the sentiment of the various Divisions had been secured.

Successful Entertainment Program

The entertainment program included the following:

"No Host" luncheon, with music at the Pantlind Hotel, Monday noon; performance of the "Vagabond King" by the Grand Rapids Municipal Opera Company at the Romona Theatre, Monday evening; Ladies Luncheon by the Oren Company, Mrs. Katherine Counts, hostess, Tuesday noon; visit by the ladies to the Grand Rapids Furniture Museum, Tuesday afternoon; "Gamewell Night," entertainment by the Gamewell Company Hotel Pantlind, Tuesday evening; Style Show and tea for the ladies, Wednesday afternoon; and the Conference banquet, Hotel Pantlind, Wednesday evening.

George W. Booth Honored

At the Seventy-First Annual Conference of the International Association of Fire Chiefs in Grand Rapids, August 28-31 the Board of Directors and delegates unanimously elected George W. Booth, Chief Engineer of the National Board of Fire Underwriters to Life Membership in the Association.

George W. Booth

George Booth, who is one of the outstanding figures in the American Fire Service, has been connected with the National Board of Fire Underwriters for over forty years during which time he has been signally honored for his many contributions to the service.

Probably the most outstanding of his accomplishments is the Standard Schedule for Grading Cities and Towns of the United States, With Reference to Their Fire Defenses and Physical Conditions. This Schedule, familiar to nearly all fire chiefs, sets up the standards in water supply, fire departments, and fire alarm, and also on fire prevention codes and building codes. In connection with the applications of this Schedule, the National Board, under Mr. Booth's direction, has inspected and reported on the fire defenses of all cities of the United States of over 25,000, and some in Canada.

Over the years Mr. Booth has served as chairman of numerous committees in the fire service devoted to the furtherance of fire prevention and fire protection. One of his most recent assignments was to head the group organized by the leading fire service orgenizations and association to study the use of O C D fire fighting equipment, and to make recommendations for its proper disposal.

Mr. Booth is a graduate of Worcester Polytechnical Institute, which this year conferred the honorary degree of Doctor of Engineering upon him. He is also an honorary member of numerous fire service organizations.

New Fire Chiefs in New York State Towns

Annual meetings and elections of officers featured the fire department news in a number of northern New York villages and towns recently. All of the organizations have lost large numbers to the armed forces, reports indicated.

A partial list of the chiefs chosen at the recent elections included the following: Lyons Falls, Joseph E. Farney; Black River, Fred O'Brien; Copenhagen, Edward Gibson; Croghan, Paul Zehr; Adams, Fay Patten; Loweville, Harvey Gallup; Great Bend, Joel Bacon; Cape Vincent, William O. Wiley; Canton, Stanley J. Barber; Norwood, Leo H. French; Norfolk, Percy LaPlante; Racquette River, Herbert D. Morgan; Colton, Blanchard R. Howe; Potsdam, James J. Doyle, Jr.; Massena, James Bourdon; Rensselaer Falls, Harold Sargeant; Sacketts Harbor, Clinton D. Hodge; Gouverneur, Stewart McCullouch, and Alexandria Bay, Harold Houghton.

Cape Vincent department, noting its 60th anniversary, reported a total of forty-eight members in the country's service, one of the highest numbers recorded.

SANFORD D. DEWEY.

Convention Dates

Secretaries of firemanic organizations are requested to send in meeting dates and the names of new officers.

Sept. 25-28—KANSAS FIRE SCHOOL. Annual meeting, Fire Headquarters, Wichita, Kans.

Sept. 27—FAIRFIELD COUNTY FIRE CHIEFS' PLAN. Monthly meeting, Fairfield. Secretary, John Moehring, 56 Toms Road, Stamford, Conn.

Oct. 2-4—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Boston, Mass. Secretary, Irvin Shulsinger, 8 East 41 Street, New York, N. Y.

Oct. 18—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. Secretary, Howard S. Geer, 35 Railroad Avenue, Rye, New York.

Nov. 15—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. Secretary, Howard S. Geer, 35 Railroad Avenue, Rye, New York.

REPUBLIC FIRE HOSE

Fire-Fighting hose is one of the protective products of all times—war or peace. The cotton jackets must be expertly woven and the rubber tube must be strong, flexibile and long-lasting. From Republic's experimental laboratory and product testing through the many factory operations, Republic Fire Hose is built to quality specifications. Republic's exclusive Provar Process, to repel mildew and rot, adds further protection and longer service.

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YOUNGSTOWN 1 • OHIO

DIVISION OF

LEE RUBBER & TIRE CORPORATION

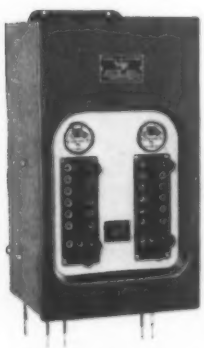
VALVES HYDRANTS

AND WATERWORKS ACCESSORIES

M & H products, including pipe line accessories, are well known for high quality of material and expert workmanship. They are made according to standard specifications and have been used for many years throughout the country. Write for Catalog No. 34

M&H VALVE AND FITTINGS COMPANY

ANNISTON, ALABAMA



A Dependable BATTERY CHARGER

For dependable, economical and efficient one-day battery charging service, this Full-Wave G-E Tungar should be your choice. It will give a fast or slow charging rate or a combination of both. Strongly built to withstand hard usage this G-E Tungar is extremely simple to operate. It's versatile too—at 2 to 6 amperes it will handle twenty-four 6-volt batteries, or twelve 12-volt batteries, or six 24-volt batteries. At 2 to 12 amperes it will handle twelve 6-volt batteries, or six 12-volt batteries, or three 24-volt batteries. For more information, write to Section A943-58, Appliance and Merchandise Dept., General Electric Co., Bridgeport, Conn.

BUY WAR BONDS AND KEEP THEM

GENERAL ELECTRIC

With Our Readers

(*Continued from page 652*)

destroyed Breat's warehouse, a four-story brick building occupied by the Sterling and Harshaw Chemical Companies and used for storing chemicals for the government. It spread to the two- and five-story brick building of the M. and M. Burlap Bag Company at 10-21-23 Washington Avenue. This company was making bags for the government and suffered a heavy loss.

Then at 9:44 a. m. on the 2nd, another two-alarm fire badly damaged the Barclay White Carrier Corporation and the Lacony Packing Depot at Milnor and Bleigh Streets. These companies occupied a large one-story corrugated iron building and are doing 100 per cent war work.

At 10:19 p. m. on the 3rd, a local and two-alarm fire destroyed the two-story brick building of the Samuel Parris Junk and Rag Shop at 2636-38 W. Cabot Street.

Then on the 15th a two-alarm fire at 7:55 a. m. destroyed twenty-two and damaged ten private garages out of forty-four in a double row which were loaded with egg crates and occupied by Harry Polish in the rear of 4208-28 Guard Avenue.

On the 24th of the month a four alarm fire destroyed four brick buildings formerly occupied by the Keystone Brick Company. At the time of the fire they were owned by the Naval Aviation Supply Depot, and the Heintz Manufacturing Company was using them for storage of goods for the government.

Then on the 26th at 11:52 a.m. a local and six-alarm fire destroyed the four-story and three-story brick buildings occupied by the Berman Carpet Company and the Harrow Novelty Company, 215-17 Market Street, also damaging the four-story brick building of the Fisher Bruce Company, 219 Market Street. With half of the companies still at this fire, a four-alarm fire about three miles away at American and Cambria Streets, started at 3:25 p.m. in the Gibson Junk Company, destroying a three-story brick building and many tons of waste paper badly needed in the war effort.

On the 29th there were two more extra alarm fires, the first at 3:26 p.m. for a two alarm in the H. Loeb and Sons and Leonard Supply and Equipment Company, 4658-60 Merion Avenue; the other at 4:53 p.m. when a local and five-alarm fire badly damaged the Pennsylvania Sugar Refining Company on the Delaware River at the foot of Laurel Street.

These nine fires resulted in the injury and treatment of about 200 firemen, and the fire loss was well up to or over the million dollar mark.

Very truly yours,

"ADELPHIA"

A Fire Fighter in Queensland Sends a Letter of Gratitude to America

To the Editor:

I am still a subscriber to your interesting magazine and have not missed a copy since the outbreak of the war.

Here in North Queensland we have U. S. Army and Air Force men and equipment of every shape and size. When the Yanks first landed here, they were a novelty in Australia, let alone Queensland.

I am glad America came to save our country from the Japanese. I sincerely hope we'll always hail the Yanks as brothers in our hour of need. When America first came we did not have as much as a gun cracker or sky rocket to fire at the Japanese if they landed on our island home. It is wonderful how America's Air Force and Navy kept the sea lanes to Australia and the Pacific open in spite of the odds that were against them when the "yellow baboons" gave them the "king hit" at Pearl Harbor. I'm sure it won't be long before they even up the score.

When the Americans first came to Queensland, every second person was collecting buttons and badges from them as souvenirs.

We have an American trailer pump, the "Carter Chief," right here in Hughenden Town, Northwest Queensland, many thousands of miles away from the place it was made.

Yours sincerely,

A. CUSHMAN,
Hughenden, North Queensland,
Australia.

A Fire School for a Small Town

To the Editor:

Speculator, N. Y., is that summer resort made famous not only by its location in the southern Adirondacks, but also as the training camp of some of the world's famous heavyweight ring champions such as Gene Tunney and others.

Speculator has a volunteer fire department consisting at the present time of Engine Company No. 1.

When Engine Company No. 1 found its active membership dangerously depleted because of the war, and because only half of those remaining in town had little more than average time to devote to volunteer fire fighting, it decided to go in for a period of intensive training.

Word was passed around that as soon as the summer season closed, a fire school would be opened at once for the benefit of any firemen or citizens who cared to attend.

The school opened in September, 1943, with a series of outdoor drills in hydraulics and ladder work. Fortunately several broken hydrants were discovered and repaired before the winter set in. The outdoor drills closed just before the hunting season with a big work-out on the shores of Lake Pleasant where a kindly and public minded proprietor allowed the "brothers" the use of his buildings and then served a hot meal when they were through.

Shortly after New Year's the Speculator Fire School resumed with a series of indoor lectures open to all who cared to attend. These closed with a written review in the latter part of April.

Arrangements were then made with a large Mohawk Valley Fire department for the graduates to visit the central station to see what they had been hearing about in the course. This trip proved more interesting and beneficial than was ever dreamed of at the time. For when the six graduates arrived in Amsterdam, N. Y., bright and early on Saturday, May 20, they found the heavy central station apparatus rolled out and Chief Wilbur Wright on hand to meet them.

Chief O'Leary

An Active Chief producing products to promote the science of fire fighting

★

My Latest Discovery!

A new Chimney Bomb ready for delivery Oct. 1

★ ★ ★

FEATURES

- Remains Liquid at 75° below zero. (Chicago Testing Laboratory).
- Non-corrosive.
- Acts as flame-proofer and fire retarder.
- Dissolves quickly and easily.
- Dissolves in cold water.
- Saves handling transportation and storage space.
- Now shipped in moisture-proof fibre drums instead of bags.

SCALE

For Each Gallon of Water Add

1½ lbs.,	5° below Zero
2 lbs.,	10° below Zero
2½ lbs.,	23° below Zero
3 lbs.,	35° below Zero
3½ lbs.,	50° below Zero
4 lbs.,	65° below Zero
4½ lbs.,	75° below Zero

Use Nation-Wide Hydrometer

Immediate Delivery F.O.B. plant or N. Y.

Chief O'Leary Says—

THERE'S AS MUCH DIFFERENCE BETWEEN HORSE-DRAWN APPARATUS AND MODERN APPARATUS AS THERE IS BETWEEN OLD NON-FREEZE SOLUTIONS AND THE NEW . . .

"NATION-WIDE" *Non-Freeze* SOLUTION

★ NOW USED BY U. S. AIR FORCE, U. S. NAVY, U. S. MARITIME AS WELL AS HUNDREDS OF FIRE DEPARTMENTS THROUGHOUT THE UNITED STATES AND CANADA

★ ***WE GUARANTEE this solution to be non-freeze as low as 75° below zero. WHO ELSE CAN DO THIS?***

★ ***NON-CORROSIVE—Solutions made with Nation-Wide Non-Freeze are neutral thereby saving your equipment.***

★ ***MUCH SMALLER QUANTITY OF NATION-WIDE NON-FREEZE is needed as compared to present anti-freezes; therefore handling and freight is saved, storage space is saved, thereby showing a saving in money.***

★ ***NATION-WIDE NON-FREEZE IS NOT AN ORDINARY anti-freeze but a specialized fire-fighting non-freeze for Booster tanks, Indian pumps, pump tank extinguishers, fire pails, O.C.D. pump tanks, etc.***

Here is a decidedly new, non-freezing solution that fire chiefs everywhere have been looking for for years. It will provide fire departments with a truly non-freezing solution down to 75° below zero. Use it for booster tanks, pump tanks, extinguishers and feel absolutely safe in recommending its use in open receptacles such as fire pails, fire barrels, etc.

This is a prominent, widely experienced fire chief's solution to a problem every fire chief has had for years in cold climates. Try it—you'll never go back to other anti-freezes again.

★ NATION WIDE FIRE PREVENTION AND EQUIPMENT CO. INC. ★

214 EAST 49TH STREET, NEW YORK CITY

The Speculator men heard a lecture on the alarm system and methods of size-up, ventilation, rescue and attack. They were shown all sorts of small tools and gas masks from the big aerial truck. A brief lecture was also given on hose and nozzle work.

Outside, the Speculator men saw a demonstration of the various kinds of ladder raises. They also did some climbing.

After lunch, a battalion consisting of the chief's car, a pumper and the 75-foot steel aerial truck conveyed the visitors to the State Barge Canal Basin for a work-out in hydraulics which included aerial tower, deluge set and the use of the foam generator.

The visitors were also interested in the use of the two-way radio set, and in the way the central station crews were "covered" by other companies while they were away.

As soon as the local instructor certifies his work to the state authorities, the Speculator Fire School will close for the year. But Chief Robert Slack vows there will be another one.

Engine Company No. 1, with its active list depleted by the war, now finds itself with a small but efficient crew, whose members can serve as squad leaders for the rest.

Yours truly,
FREDERICK B. GRIM,
Speculator, N. Y.

Fire Sweeps Hotel

Fire of undetermined origin recently swept through the top two floors of the four-story Thomas Hotel at 971 Mission Street in San Francisco, causing more than 100 persons to flee and doing damage of $15,000 before firemen responding to three alarms and a special call for two truck companies controlled the blaze.

Fire Department officers said only the fact that the fire occurred early in the evening prevented loss of life, perhaps even greater than that incurred in the New Amsterdam Hotel fire of last March 27 when 22 lives were claimed, so fast was the spread of the flames.

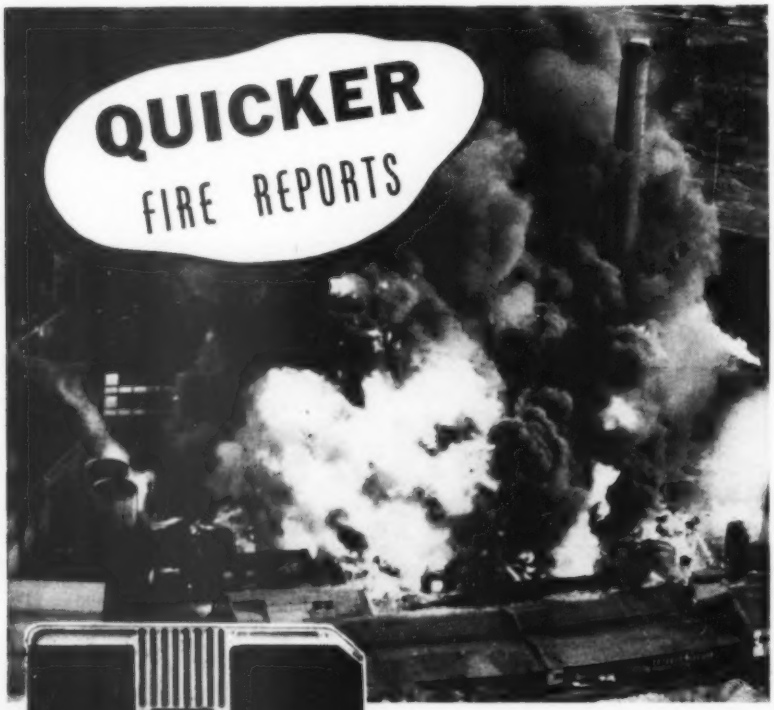
Peculiar construction of the building, including a maze of dead-end hallways, hampered firemen in their work and endangered guests living in rooms on the two top floors, many of whom were rescued by firemen under direction of Assistant Chief Martin J. Kearns.

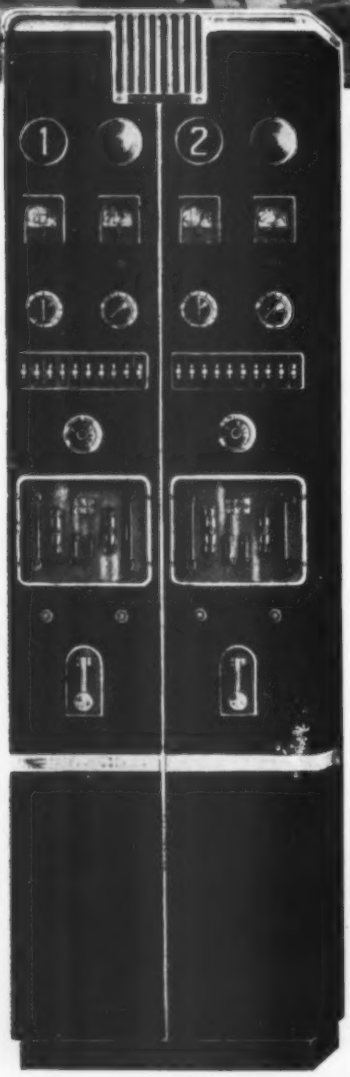
The Fire Alarm Office had a busy time straightening out alarm responses and a number of special cover-in calls were sent out when Box 2251, Sixth and Mission; Box 2142, First and Mission and a waterfront box, 914, all were pulled for separate fires within a space of five minutes. Many companies, both engine and truck, were due at at least two of the boxes on the first alarm and nearly all who responded to 2142 and 914 were due at 2251 on the second or third, all of which complicated the response.

The necessity of calling for two extra truck companies caused several outlying truck companies to be moved into the downtown area and traffic was tied up in many places by the influx of apparatus.

Although there were many narrow escapes for both guests and firemen, no one was injured in the blaze, the cause of which is being investigated by the department's arson squad.

BOB GREENOCK





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FIRE ALARM
T-E-L-E-G-R-A-P-H
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1. Unit is designed and manufactured to specifications of the National Board of Fire Underwriters.
2. Incorporates all of the battery charging, line controlling, circuit protection, test and automatic repeating means in one unit.
3. Main frame is steel. Additional units may be added together, providing from 2 to 100 circuits.
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5. Extra heavy switches and relays provide reading and control of the output current of the rectifier, the line current; rectifier and line voltage.

For additional information concerning this easily operated, easily maintained switchboard write today. Your inquiry will be quickly acknowledged.

Southern Switch & Signal Company
SHREVEPORT, LOUISIANA
"There Is No Substitute for Experience"

Amusement Park Fires

(*Continued from page* 649)

Many inquiries were received by Manhattan fire and police. Mayor La-Guardia, informed of the fire, offered to send assistance, but this was not needed. Houses in the vicinity of the Park, particularly to leeward, were patrolled by firemen and volunteer workers, and numerous incipient fires extinguished.

Had the fire occurred at night, it is believed a major disaster could not have been averted.

Wind Shifts Aid Flames

As is often the case, the fire seemed to create its own draft. The wind, which at the outset had been southwest, veered at times, driving back upon some of the fire-fighters, necessitating hasty retreats, as a result of which over 6,000 feet of hose are reported destroyed. The Fort Lee Fire Department alone lost over 3,000 feet, much of it from its No. 1 pumper.

This pumper, at the outset, because of the crowd, was partially mired in the sand at the edge of the pool to leeward of the fire. As the flames bore down on it and the men at the pipe had to retreat, strenuous efforts were made to free the truck, but the best that could be done was to work it further into the water at the pool's edge and continue pumping. Finally, the pump operator, Ex-Chief Barney of Fort Lee, was compelled to close the hood and retreat out into the water, leaving the pump working at 125 pounds pressure. There, he and Captain George Graff, also of Fort Lee, partially stripped, in water up to their necks, alternately directed their stream onto old No. 1 and a wooden bathhouse and other structures nearby. As the fire ate to the water's edge of the pool, the rear of the old rig took fire and the hose left in the body—about 600 feet of 3 inch, burned off at the bends; the hard rubber booster hose and much of the equipment, however, was saved. The paint blistered and peeled off the gasoline and booster tanks, but fortunately the fuel tank did not explode. And old No. 1 kept humming through the fracas until dark when, her fuel exhausted, she stopped. At different times, during the next three days while she remained with her front tires in the water, she was called upon to supply streams used in wetting down the ruins and this she did without faltering.

Army of Fire Fighters

This fire, as contrasted with that of Luna Park, which was strictly a New York Fire Department job, was fought almost entirely by volunteers. The two Departments in whose area the Palisades Park is located, arrived promptly after the receipt of the first alarm. Palisades (town) Fire Department, under Chief Steve Kearney, followed Fort Lee in, with Edgewater and others hard on their heels as police calls for help were dispatched.

All told, forty pieces of apparatus rolled in from Cliffside Park, Edgewater, North Bergen, Union City, West New York, Weehawken, Ridgefield, Ridgefield Park, Palisades Park (town), Teaneck, Hasbrouck Heights, Fairview.

WARD La FRANCE

A Pioneer Name in Fire Apparatus

A typical WARD LA FRANCE pumper, equipped with WATEROUS 1000 G.P.M. Centrifugal Pump

. . . and so is the name,
WATEROUS on a Fire Pump

WARD LA FRANCE, whose long experience and large facilities are evident in the quality and modern design of their apparatus, gives you the added advantages of a WATEROUS Fire Pump.

The selection of WATEROUS Pumps by WARD LA FRANCE we feel is a splendid recognition of honest quality, high efficiency and long life. Specify WATEROUS on *your* next apparatus.

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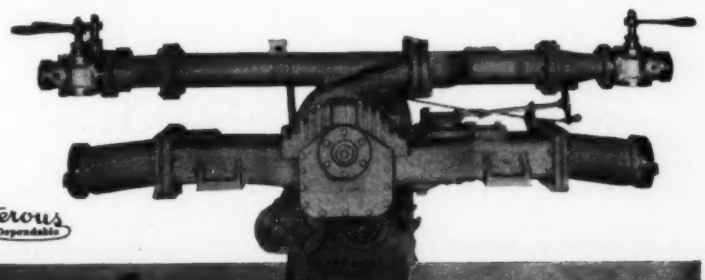

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FIRE PUMPS

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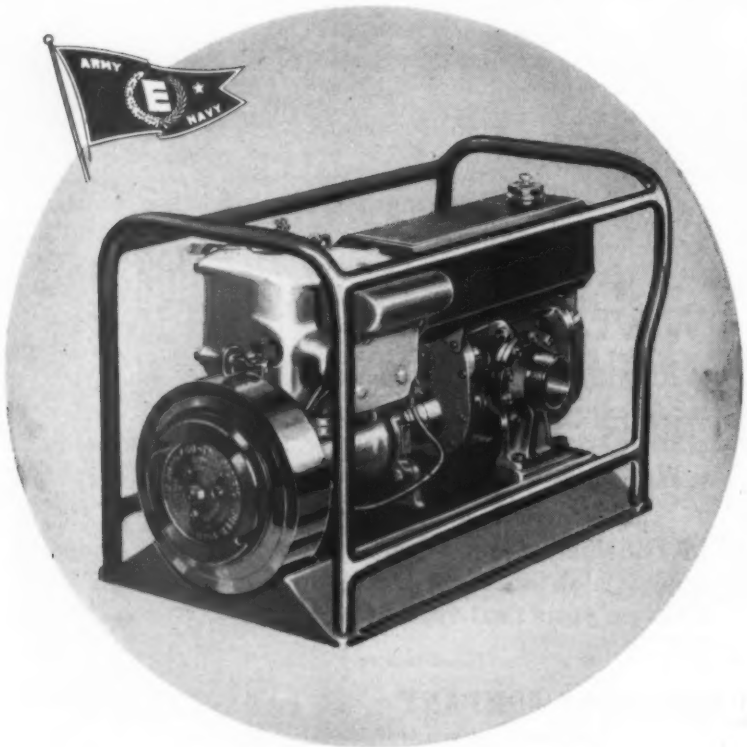
HANDY BILLY
Portable Pumper



The principles of design and precision manutacture that have made the Pacific Handy Billy such an effective fire fighter for the Navy will, in due course, be available to protect forestry, industry and shipping against the ravages of fire.

Fire Fighting Equipment Division
PACIFIC MARINE SUPPLY COMPANY
SEATTLE, WASHINGTON

Englewood Cliffs, Dumont, Tenafly, Leonia, Closter, Hillsdale and Fort Lee. Police cars from the State Police, County Police, Sheriff's Office, Prosecutor's Office, Interstate Park Police, responded, as did civilian defense first aid and Red Cross units from Fort Lee and surrounding municipalities.

Ambulances were sent from Bergen Pines, Bergenfield (rescue), Edgewater, Fort Lee, Jersey City Medical Center, Englewood Hospital, Dumont, Cliffside, Tenafly, Ridgefield, Ridgefield Heights, Palisades Park (Town), Fairview and Holy Name Hospital in Teaneck.

Some Conclusions to Be Drawn

These two large-scale fires provide ample evidence—if it were ever needed—of the hazards to life and property found in out-of-door amusement parks of any magnitude. The use of large amounts of combustible materials for construction, weathered by years of exposure to the elements; close proximity of concessions of all types; the limited water supplies and fire fighting equipment, and lack of trained fire fighting personnel; the lack of emergency exits from the grounds and concessions, and limited means of entrance into the grounds for the fire forces—these are almost universal.

The Palisades Amusement Park fire presented unusual difficulties because of its location within two individual municipalities. No one chief fire officer was in charge; incoming companies, responding on mutual aid calls, had difficulty in finding proper authority to determine where they should go to work. Although both Cliffside Park and Fort Lee had clearly defined plans on how they would operate at a fire in the Park, and had drilled at the scene, no comprehensive layout had been agreed upon for the placement of many incoming services or for setlement of the question of over-all command. As it was, the chiefs of the two Departments deserve credit for the manner in which they handled the complex and complicated problem of fighting this fast-spreading fire.

Both fires emphasize the wisdom of frequent and thorough inspections of such properties and of holding management to strict adherence to fire prevention and protection regulations. They emphasize also the need of predetermined plans of attack, agreed to by all forces that may be required in emergency, and the delegation of command to the most logical authority. They point to the need of coordination of all emergency services—police, fire and disaster, each to look after specified tasks, from saving life to clearing roads and establishing fire lines and patrols.

With the example of these and other similar fires before them, fire chiefs will be wise to waste no time in checking up in their own neighborhoods and preparing plans to meet possible similar situations.

Fire Destroys Merry-Go-Round in Transit

Adding to the queer coincidental emphasis on fires in amusement places, carnivals and the like, comes an account from J. Roger Miller, Bareville (Pa.) which relates how a traveling merry-go-round was totally destroyed by fire, and the large truck used to transport it

was badly damaged, with a loss estimated at $10,000.

This occurred in Groffdale, Pa., near Bareville. The truck and carrousel were part of the Sam Lawrence Greater Shows, en route to York, Pa., and the driver of the truck said he believed the fire was caused by a cigarette.

Firemen from Bareville, under direction of Chief Ira C. Wibble, responded to the alarm but found themselves dependent solely upon the water in their pumper's booster tank. They utilized this until the booster was exhausted and were about to lose the battle when it was learned that there was water at the Groffdale Cistern, about half a mile away.

In some way the lads got the motor of the carrousel truck going and managed to convoy the "flaming chariot" as far as the Cistern, whereupon a good stream from the pumper got in its good work. The cab and engine of the truck were saved but the merry-go-round was a total loss, the intense heat preventing the firemen from unloading it from the truck.

Writing about this event, Mr. Miller says: "I have often read about fires stopping in front of the fire house, but this fire was the first one I ever saw moved to the supply of water. The bucket brigade was unable to keep the booster tank (on the fire truck) filled in order to put the fire out. The burning truck with the merry-go-round, had to be transported about half a mile to the Groffdale Cistern where the large Bareville pumper was put into service."

County Fire Marshal Paul Z. Knier, Manheim, Pa., was present and aided in fighting the fire. State policemen helped control traffic, facilitating the "convoy" to the scene of the water supply.

Hospital Fire Department Celebrates Fiftieth Anniversary

The fire department of the New Jersey State Hospital at Greystone Park recently celebrated the fiftieth anniversary of its organization.

Since the department's organization in July, 1894, the hospital authorities have spared no pains to afford adequate fire protection to the Greystone Park area. When organized its principal apparatus was a hand-drawn vehicle, equipped with wooden wheels, which carried a reel of hose and several leather water buckets, held on iron hoods which were attached to the hose carriage.

Its apparatus now consists of a triple combination pumping engine, a combination ladder and chemical tank truck and a squad car, all fully equipped.

Reinforcing the fire fighting equipment are fifty-three hydrants, located in all sections of the hospital property in close proximity to buildings; also forty nine fire boxes. The central fire alarm control system was installed at fire headquarters and has been in full operation since June 30, 1943. Of more recent date the sprinkler control system was removed from the dynamo room to the central station.

The department consists of a paid chief, Charles H. Acker, who assumed the post on March 1, 1935; one operator driver, who acts as assistant to the chief, and fifty unpaid call men, who are employees of the hospital and certified for active duty.

INDIAN

CLEAR WATER

The ease of operation and portability of INDIAN FIRE PUMPS is such that women and children can and have used them to put out all types of fires. Pump throws 30 to 50 ft. pressure stream or nozzle adjusts to a spray.

Fire Pumps

Yes sir, chief of them all. Small town and big city firemen say that famous, portable *INDIAN FIRE PUMPS* give them the best all 'round service of any equipment. Clear water does the job—no chemicals. Use *INDIAN FIRE PUMPS* on *inside* or *outside* fires. No hose to lay. Just grab an *INDIAN FIRE PUMP* and go to work. How is your supply of these great fire fighters?

The number of INDIAN FIRE PUMPS in use by fire departments, foresters, industrial plants, farmers, etc., is so great that virtually every man, woman and child in this country at some time or other comes in contact with them or benefits from the protection they afford.

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Built for Safety, Comfort and Dependability, this Acme FULL VISION All-Purpose Type FD Gas Mask is approved by the U. S. Bureau of Mines. No distortion in these wide, flat, safety glass lenses.

The Canister protects against Carbon Monoxide, Acid Gases, Organic Vapors, Toxic Smokes, Fumes, and Smoke Suffocation. Write for literature and prices.

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What's Burning

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of August, 1944. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending August 31, 1944	Losses in Thousands of Dollars
Chicago, Ill.—Seven bldgs. of Coal Tar Products Div. of Sherwin-Williams Co. destroyed	225
Ottawa, Ont.—Workshops and garages of the Canadian Army Service Corps destroyed	800
Plainfield, Ia.—Elevator and feed mill of J. Roach & Sons Co. destroyed	80
Ardmore, Okla.—Choctaw Cotton Oil Mill destroyed; 10,000 bales of cotton stored in adjacent Traders Compress also destroyed	100
Tulsa, Okla. — Fifteen show horses and equipment of Hilltop Stables destroyed	50
The Dalles, Ore.—Tum-a-lum Lumber Co. destroyed	60
Connellsville, Pa.—Schmidle Lumber Co. planing mill damaged	50
Beaumont, Tex.—Perlstein Bldg. and adj. bldg. damaged	800
Portsmouth, Va.—Storage bldg. of supply dept. of Norfolk Navy Yard destroyed	300
Loggieville, N. B.—Saw mill, box factory, wharf and levelling shed of A. & R. Loggie Co., Ltd., damaged	650
Trail, Ore.—F. Swingle Saw Mill destroyed	50
Clarksburg, W. Va.—Bldg. housing Barnes Brass Works, White Electric Co. and several apartments destroyed	225
Hamilton, Ont.—Plant of Beechnut Co. of Canada damaged	50
Chicago, Ill.—Sadow Tire & Supply Co. damaged	50
Clovis, Cal.—Clovis Feed Mill of Glenn Sheets destroyed	60
Bridgeport, Conn.—Plants of Whipple & Choate Co. and Bridgeport Deoxidized Bronze and Metal Co., damaged	170
Hancock, Mich.—Kauth bldg. and Three Winners dept. store destroyed	80
Huntington Park, Cal.—Benedict and Moorman Block occupied as cafe, liquor store, cleaning establishment and storage room for stationery firm, destroyed	125
Newhall, Cal.—Oil refinery, along with sixteen tanks of crude oil, damaged	425
Brazil, Ind.—Saw and planing mill at Lena, destroyed	50
Wildwood, N. J. — Strand Theatre, Mary Bradford Restaurant, shooting gallery, ice cream store, ball amusement concession, novelty and jewelry store and a salt water taffy shop destroyed	225
Hoboken, N. J. — Pier 4, formerly the property of the Hamburg-American Line and later utilized by the United States Lines destroyed and nearby Piers 3 and 6 damaged. War materials which were being loaded from the pier were destroyed	4,000
Cliffside, N. J.—Palisades Amusement Park damaged. Virginia Reel, ball throwing amusement center, shooting gallery and refreshment concessions destroyed as were between 70 and 100 cars in parking lot	1,250
Brooklyn, N. Y.—Half of rides and concessions of Luna Park destroyed	425
Whiteville, N. C.—Dry kiln and planing mill of Sledge & Sons lumber Co. destroyed	50
Ardmore, Okla.—Two bldgs. of Dormick Hills Country Club, used as officers' club by Ardmore Army Air Field, destroyed	80
Pendleton, Ore.—Pilot Rock bldg. destroyed	50
Condon, Ore.—Condon grain elevator destroyed	80
Greenfield, Ill.—Tendick dry goods store and grocery, South Side Hardware Co., Barton restaurant, Kroger grocery, south side of square, destroyed; Tin shop of South Side Hardware Co., across the alley to the rear, destroyed; Green Service station at corner damaged	80
Howell, Mich.—House and all bldgs. on farm about five miles north, owned by E. F. Wait destroyed; also, all bldgs. except house on farm of William Boscar destroyed	60
Lincoln, Neb.—Lumber yards of Searle & Chaplin Lumber Co. destroyed	50

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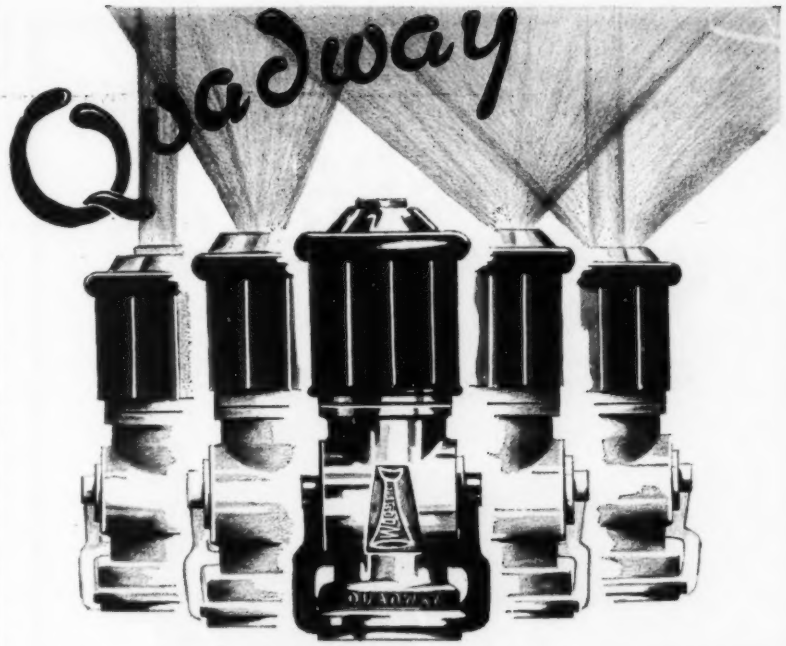
Binghamton, N. Y.—Dailey Grain Mills destroyed 225
Leroy, N. Y.—Northeast Laundry Co. plant destroyed 50
Dayton, Wash.—Columbia Co. Fairgrounds, destroyed 50
Boyd, Wis.—The August Lotz Co. mill destroyed 55
Trenton, Ill.—Eight bldgs. and all machinery except tractor on farm of Peter Orschel, a mile northeast, destroyed.... 60
Portland, Ore.—East St. Johns Shingle Co. destroyed 60
Zanesville, Ohio.—J. J. Newberry Dept. Store damaged; also Kinney Shoe Store 50
Chicago, Ill.—Torch Club damaged..... 50
Yazoo City, Miss.—Mill of Gooch Bros. Lumber Co. destroyed..... 55
Tacoma, Wash.—Ace Electric Co. and adj. plants damaged 50
Winnipeg, Man.—McColl Frontenac Oil Co. damaged 50
Harbor Grace, N. F.—Post Office bank, fish plant of Cy Moore, telephone exchange, twenty stores, two Protestant churches and everything else that would burn in an area one mile long and an eighth of a mile wide along waterfront, destroyed.. 3,500
Oakland, Cal.—Three adj. bldgs., Nelson Tire Co., City Cornice Co., Madden Plumbing & Heating Co. 60
Longueuil, Que.—Five houses and twenty-two barns destroyed..... 80
Mundelein, Ill.—Barn on farm of Joseph Titus destroyed 60
Warrenton, Va.—Barn at "Ravenswood" farm of Col. Albert Pierce destroyed.... 50
Modesto, Cal.—Plant of Pacific Coast Dehydrator Products destroyed..... 100
Oakland, Cal.—Bldg. occupied by antique furniture shop of Harry Berger destroyed 50
McCloud, Cal.—Gables, main bldg. at Wyntoon, William Randolph Hearst estate destroyed 350
Baltimore, Md.—Plant of Lord Baltimore Laundry damaged; also 46 one-story garages and three dwellings..... 225
Nicolet, Que.—Henri Valliers' furniture factory destroyed 60
Regina, Sask.—Seventy per cent of Hi-Way Refineries, Ltd., plant destroyed..... 50
Grangeville, Ida.—Blue Fox Theatre destroyed 50
Gastonia, N. C.—Matthews-Belk Co. dept. store damaged 80
Barre, Vt.—Granite mfg. shed of Novelli & Calgagni, Inc., destroyed; office bldg. and adj. J. O. Bilodeau granite plant damaged 80
Winnipeg, Man.—Dominion Tanners Co. warehouse damaged 50
Borden, Sask.—Grain elevator, bldgs. owned by Monarch Lumber Co., and four tank cars containing gasoline and oil, 35 miles northwest of Saskatoon, destroyed..... 60
Cambridge, Md.—Furniture of owner of Nathan store, stored in bldg. owned by Cambridge Industries, Inc., damaged.... 50
Snow Hill, Md.—Three bldgs. and 4,000 cases of tomatoes of Snow Hill Canning Co. destroyed 50
Owensboro, Ky.—Four-story Sears, Roebuck & Co. bldg. destroyed..... 170
Battle Creek, Mich.—Downtown warehouse of A. W. Walsh & Co., and F. J. Skidmore & Son destroyed..... 50
Kennewick, Wash.—Twin City warehouse canned goods destroyed..... 125
Louisville, Ky.—Bldg. of Kentucky Looms, Inc. destroyed; adj. Southern Press and Louisville Coffee Co. damaged..... 125
Louisville, Ky.—Walgreen Drug Store damaged; adj. Highland Sample Shoe Store damaged 50
Lindenhurst, L. I., N. Y.—Plant of Kent Marine Corp. destroyed..... 50
Doniphan, Mo.—Leather goods factory destroyed 80
St. Louis, Mo.—Gem Theatre damaged.. 50
Wenatchee, Wash.—Conconully General Store, post office, dwellings, destroyed.. 60
Los Angeles, Cal.—Santa Fe warehouse totally destroyed 60
Washington, D. C.—Frame bldg., used for storage at Bolling Field, damaged..... 60
National City, Ill.—Barn of Harper Bros. Livestock Co.; bldg. occupied by St. Clair Milling & Feed Co., and bldg. occupied by men's clothing store and a restaurant destroyed 50
St. Louis, Mo.—Missouri Pacific Lines freight dock damaged..... 50
Eugene, Ore.—Approved Flax Co. destroyed 170
Chicago, Ill.—Superior Fixture & Cabinet Co. damaged 60
DePere, Wis.—Frame steel metal covered bldg., housing three beaters of U. S. Paper Mills Corp. damaged..... 80
Shubenacadie, N. S.—Seven bldgs. including Canadian Natl. Railway freight sheds, destroyed 170
Brentwood, Cal.—Dehydrating plant and fruit packing sheds of Balfour Guthrie & Co. destroyed..... 110



4 NOZZLES IN ONE

QUAD-WAY ALL-PURPOSE NOZZLE

SOLID STRAIGHT STREAM ONLY

Solid straight stream same as obtained through efficient conventional shut-off with regular length open tip.

VAPOR OR FOG ONLY

Vapor only, for liquid and confined fires with adjustable range approximately 20° to 160° angle, inclusive. Combination of impinging serrations and jets produces homogeneous vapor pattern.

SOLID STRAIGHT STREAM and WATER CURTAIN

Solid straight stream in combination with water curtain for fireman's protection against excessive heat, also to dissipate poisonous smoke, fumes, and gases.

COMPLETE SHUT-OFF

Conventional shut-off of both vapor and solid stream with the well-known CUSHION-BALL shut-off.

The "Trumpet" QUAD-WAY Nozzle represents a pronounced advancement in nozzle construction, adaptability, economy, and fire-fighting efficiency. Here, in ONE UNIT are incorporated all the necessary features that make instantly available any combination water stream to meet emergency developments in fighting practically any type of fire. Operation is simple, quick, and positive.

IMPROVES THE FIRE-FIGHTING EFFICIENCY OF ANY DEPARTMENT —LARGE OR SMALL

Time and man-power are always at a premium in fighting fires. With the QUAD-WAY Nozzle no time is lost in selecting the correct type nozzle after surveying the fire. This new all-purpose nozzle transforms every hoseman into a COMPLETE fire-fighting unit. Experienced firemen are always prepared for sudden developments in fighting fires which may demand an immediate change in technique. Heretofore, it often meant precious minutes were lost changing nozzles. With the "Trumpet" QUAD-WAY Nozzle no changes are necessary—yet you are constantly prepared with the CORRECT WATER STREAM to suit the requirements of any fire situation.

SEE YOUR LOCAL FIRE DEPT. SUPPLY DEALER FOR A DEMONSTRATION OR WRITE ON MARGIN AND MAIL IN

THE WOOSTER BRASS COMPANY

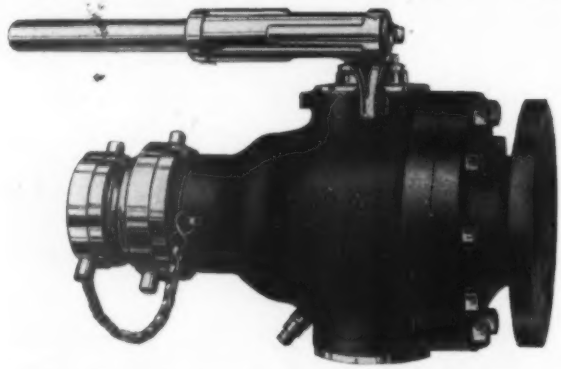
Fire Equipment of Distinction

WOOSTER, OHIO J. C. SCHELLIN, Pres.

HOSE BRASS GOODS WB LINE THE WOOSTER BRASS CO. WOOSTER, OHIO

Safe... Efficient... The VALVE for the Job!

KEROSPHERE
PUMPER
DISCHARGE VALVE



EASY TO OPERATE UNDER HIGH OR LOW PRESSURES . . . QUICKLY REPAIRED . . . MINIMUM MAINTENANCE

KEROSPHERE proved advantages include:

- Quarter turn to open
- Will not creep in any throttled position
- Non-freezing at low temperatures. When valve is in closed position it seals on the pressure side of the line and water from the interior of the valve body can be discharged through drain cock
- Non-chattering
- Double seat shutoff
- Non-galling and non-sticking
- Seat protection
- All pulsating stresses automatically compensated by flexible seat units
- Fire Hose drain plug
- Available in 2½" and 3" sizes

Write for descriptive bulletin.

KEROTEST MFG. COMPANY
PITTSBURGH 22 PENNSYLVANIA

Any Idle Fire Equipment For Sale?

Today—right now—there are many American communities and municipalities which sorely need additional fire fighting facilities to give their citizens adequate fire protection and are unable to secure these because of war conditions.

Search your own department or fire stations for any surplus apparatus or old usable equipment and offer it for sale through the classified "Opportunities" columns of this magazine. Rates are low—only $5 per inch.

FIRE ENGINEERING
24 W. 40th St., New York 18, N. Y.

Wilton, N. H.—Souhegan mill, also drying shed destroyed; also fuel oil stored in three tanks of Draper Fuel Co., destroyed	80
Eugene, Ore. — Sawmill Consumers Co-operative Co. destroyed	125
Montezuma, Ga.—C. F. Dover warehouse and 700 bales of cotton destroyed and a row of bldgs. known as the Dover block damaged	80
North Fork, Cal.—Ponderosa Lumber Co. destroyed	50
Opelausas, La.—Bldg. housing local USO, draft board and agricultural offices, Hebert Insurance Agency and Abdalla Co. store rooms destroyed	50
Springfield, Ore.—Paramount Market destroyed	50

How the Dominion Will Dispose of Its Civilian Fire Fighting Equipment

The problem of final disposition of the emergency fire fighting equipment created to augment the regular fire forces of the Dominion of Canada does not appear to present the complications and difficulties that are encountered by the States in the effort to liquidate its war surpluses.

To begin with, the apparatus and equipment of the Dominion is nearly all of standard design and quality of materials and workmanship, whereas that of this country is largely the reverse. Secondly, the equipment was manufactured by companies engaged in the production of fire fighting equipment which permitted them a reasonable profit so that whatever is done with the equipment, the manufacturers can have little complaint about its adversely affecting their market. Finally, the basis on which it was distributed was different from that employed by the U. S. OCD; there were not the inequalities and, as a result, there has not been the confusion and argument over the allocation of the equipment as existed and still exists in this country.

When it came time to decide upon the final disposition of its ARP (Air Raid Precautions) apparatus, as it is known in Canada, the Dominion Government passed an Order-in-Council, governing the ultimate disposal of all of this equipment. From information reaching FIRE ENGINEERING, it is understoodstood that communications issued by the Director of Civilian Defense for Canada, give the following information, which is believed to be authentic—at least up until the time of this writing:

1. As civilian defense is discontinued in any area or the establishment reduced in any district, the Director of Civilian Defense formally declares this ARP equipment surplus, and the title to it passes to the War Assets Corporation, a federal agency which has been established to handle the disposition and sale of all surplus war supplies, from war industry buildings down to toothpicks.

2. The Order-in-Council governing the disposition of ARP equipment by the War Assets Corporation provides that this equipment shall be sold to purchasers in the following priority:

a. The municipality to which the equipment has been allocated under the Civilian Defense Organization.

b. To the various services and other governmental departments, both federal and provincial, and to other municipalities; and

c. To commercial purchasers.

3. War Assets Corporation have

established prices for the purchase of all ARP fire fighting equipment to be sold at the one standard price to all classes of purchasers as outlined above, this price now established to be maintained after the war; it is reported that the larger ARP pump is to be sold at a price of $750 but that none are available at this time. This is an Underwriters test at 500 g.p.m. (Imperial) capacity very similar to the OCD type pump.

a. New pumping equipment, and new hose and personnel supplies—90% of the cost to the Dominion Government;

b. Used pumping equipment—at 50% of the cost to the government;

c. Used hose and personnel supplies—at 30% of the cost to the government.

Note: All declared surplus equipment will be sold "as is" and "where is."

Although it is too early to predict whether or not this arrangement will prove the answer to the problem of disposing of surplus fire fighting equipment, reports from persons in high places, and close to the fire service, indicate disagreement with the prices as established for both pumping equipment and hose. There is also the belief that the Government will not be able to maintain its present prices when the big bulk of this equipment becomes available after the war. At present, communities are holding on to their apparatus and equipment and it is too early to form any definite conclusions. The reports show, however, that the Dominion is somewhat ahead of this country in formalizing its surplus war policies—at least so far as the fire service is concerned.

Fire Prevention Week Set for October 8-14

President Roosevelt by proclamation has designated the week of October 8-14 as Fire Prevention Week.

In his proclamation the President pointed out that it is imperative that the nation's utmost effort be exerted to provide an increasing abundant flow of goods and materials to every battlefront and called attention to the staggering total of waste to the nation's war effort caused by preventable fires.

He called on state and local governments, all business and labor organizations, educational and civic groups and the press, radio and motion picture industry to lend their assistance to the reduction and elimination of preventable fire losses. The Department of Agriculture, the War Production Board, the War and Navy Departments and other appropriate federal agencies were directed to give the widest possible support to attaining the objectives of his proclamation.

Tennessee Firemen to Cancel Meeting

In answer to a direct request from the Office of Defense Transportation, the Tennessee Firemen's Association has voted to cancel its 1944 meeting which was to have been held on September 26-28 at Clarksville, Tenn.

READY at an Instant's Notice!

KEROTEST

Emergency CUTTING EQUIPMENT

AN INVALUABLE OUTFIT FOR FIRE DEPARTMENT USE

Wearing Unit Light in Weight . . . Easily Adjusted . . . Very Convenient to Use

KEROTEST Emergency Cutting equipment enables you to cut away steel barriers in a few minutes . . . to get to the source of a fire quickly . . . to make a rescue that by any other method of cutting steel would require hours of time. Enthusiastically approved by the country's leading Fire Chiefs.

The entire unit is self-contained, complete with pressure proved cylinders, regulators, hose and non-back-fire cutting torch all comfortably mounted on a special padded vest, ready at an instant's notice.

The wearer's legs, arms and hands are entirely free at all times, as all parts of the Emergency Cutting Apparatus are strapped close to the body. Firemen can climb ladders and work in very close quarters without the slightest inconvenience.

KEROTEST MFG. COMPANY

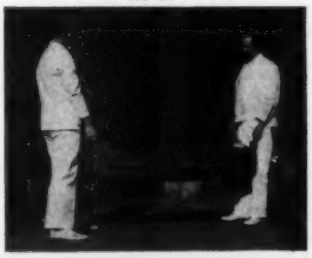
PITTSBURGH 22 PENNSYLVANIA

Reeves

Reg. U. S. Pat. Office

FLEXIBLE STRETCHERS

No. 101



Every casualty, no matter how slight or how serious, can be made worse by rough, improper handling. Reeves Stretchers can be used in the most inaccessible places.

If your dealer cannot supply you write to:

A. SMITH & SON, Inc.
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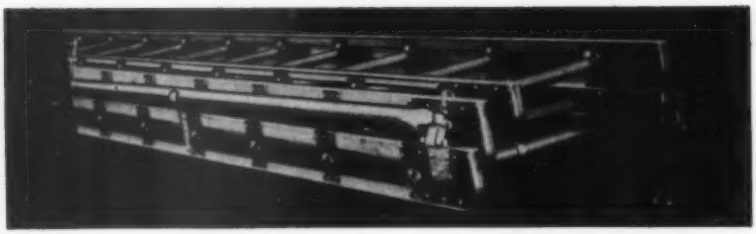
PHILADELPHIA, PA.

$14.50



Again Available

STRONG-LIGHTWEIGHT

Aluminum Ladders

★ Reallocation of aluminum by the government permits the manufacture of a limited number of fire department and industrial ladders. The three section, aluminum, heavy duty extension ladder illustrated is type 3 EL. Its unusual strength combined with remarkable light weight makes it one of the most popular fire ladders ever designed. Because of these characteristics . . .

. . . a 65 foot ladder of this type can easily be raised by four men and a supervisor — an impossible feat with ladders not made of aluminum.

FOR GREATER SAFETY AND EASE OF HANDLING

The locks operate automatically at any desired point during ladder extension. The rope and flexible cable are arranged for simultaneous automatic extension of both flies.

★ ★ ★

Write for information on standard sizes and aluminum ladders built to specifications.

Aluminum Ladder Company

200 Carbis Street
Worthington, Pennsylvania

FORETHOUGHT . . .

Reporters seldom mention the lives saved and the property loss prevented by Chiefs and Assistants whose forethought has nipped an incipient fire disaster in the bud.

Few realize, either, that back of such forethought lie hundreds of hours of study, training and practice . . . and the careful accumulation of Fire Fighting Equipment that *must* be dependable when disaster strikes.

Such dependability is inherent in Hale Fire Pumps—not by chance, but by *forethought* and by constant research resulting in constant improvement.

Write now for up-to-date information on Hale Fire Pumps . . . built in all standard sizes.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.

Classified Advertisements

Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch

AERIAL TRUCK FOR SALE

Seagrave 65-foot truck, equipped and new in reserve service in Freeport, New York, Fire Department. For particulars apply to Howard E. Pearsall, Purchasing Agent, Freeport, New York.

FOR SALE

The City of Providence offers for sale three pieces of fire fighting equipment.

1. American LaFrance triple combination pumper, 1000-gal. capacity, high pressure.
2. City service single bank ladder truck with American LaFrance, 4-cylinder motor.
3. 75′ aerial ladder truck with American La France tractor.

All of this equipment is now in service. Write Arthur R. Francis, Supt., Inventory Removal Property, City Hall, Providence, R. I.

WANTED

Fire Equipment Supply Companies, to sell Morning Pride Protected Rubber Firecoats, with Wing Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, Double Shoulders, No Dirt Pockets. Also Firepants and Mitts. Write Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. Has-Mor Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 52 Broad St., Johnson City, N. Y.

FOR SALE
FIRE DEPARTMENT SUPPLIES

Portable Pumps, Floodlight Generators and systems. Double Jacket Fire Hose, Booster Hose, Coats, Helmets, Masks, Fog Nozzles, Sirens, complete line of Fire Department supplies. Box 30, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

FOR SALE
No Priority Required

2 # carbon dioxide extinguishers	$13.95
4 # carbon dioxide extinguishers	20.16
15 # carbon dioxide extinguishers	34.45

All kinds of fire equipment. Write us your requirements. Doray Fire Equipment Co., 1924 Valley Drive, Syracuse, 7, New York.

FOR SALE

Immediate delivery, new 1250 watt 4 cycle generators, complete with 2-500 watt flood, 250 watt spot lights, cable and connectors. Also 500 watt generators and lights. Finest units ever made. Doray Fire Equipment Company, 1924 Valley Drive, Syracuse, 7, N. Y.

War Fare

By Roi B. Woolley

War Comes to Cumming

War came to Cumming (Ia.) last month when two carloads of ammunition burned or exploded after derailment.

Twenty-five cars of a sixty-car mixed freight en route to Kansas City on the Great Western Railroad left the tracks at a curve three miles south of Cumming and shortly after, fire and explosions broke out in the two cars loaded with ammunition. Shells were scattered over the nearby area as the cars broke open. Explosions occurred for more than six hours. All twenty-five cars burned, three of them containing valuable farm machinery.

No one was injured, although a crowd gathered "to watch the shells explode into the air and tear up the ground nearby." Looks to us like "there's a Providence that shapes our ends."

* * *

Robot Fire Bombs Held Ineffective

Early in August German robot or "buzz" bombs were reported to be carrying incendiaries as well as explosives. The incendiaries, sometimes twenty in number, were scattered by the force of the explosion on impact. However, it is said no fires of any importance were caused by them.

That this bombing of England was taken seriously is evidenced by the fact that before the middle of August the exodus of the second million, most of them mothers and children, from London had taken place. Britons, jittery under the fall of robot bombs, were warned to go easy on sedatives, lest they "end up by jumping at the sound of slammed doors or tensing themselves at bumble-bees." During the month censorship restrictions regarding the flying bombs were tightened up. A New York correspondent, on a visit to London wrote, "It is strange that, in a country as small yet as large of heart as ours, three-quarters of the people have only a slight conception of the ordeal which the rest of the population is undergoing. The flying bomb is Britain's biggest story and it is going largely unreported."

Meanwhile the Germans denied that the bombs fly "aimlessly", claiming that they operate on remote control "which represents a delicate brain which carries out human orders." Despite German contentions, analysis of robot bombs shot down show that there is no control for the bomb once it is in the air.

* * *

War Strikes Syracuse

A five-pound pear-shaped metal object which city and military police of Syracuse (N. Y.) identified as coming from an airplane, plunged through the roof of a Syracuse home while planes were flying overhead. Gertrude Beck and Mrs. John Bane, occupants of the house, escaped injury as the "bomb" ripped a ten-inch hole in the roof and knocked off a four foot section of plaster in a bedroom.

This new 1500-watt U. S. Portable meets your own specifications of what a fire department portable should be—because it is the result of our many years of experience building fire department units and becoming intimately familiar with your *exact* requirements.

★ 4-cycle air-cooled engine. 3.2 H.P.
★ Quick starting.
★ No fussing around mixing oil and gasoline.
★ Positive spash system lubrication.
★ Automatic voltage regulation under all loads. No adjusting necessary.
★ Equipped with carriers for easy portability.
★ Designed for *dependable* operation—a vital requirement for fire department service.
★ Larger and smaller sizes available.

Write for further information

UNITED STATES MOTORS CORPORATION

430 Nebraska Street Oshkosh, Wis.

ARMY (E) NAVY

Bible of the Fire Service

THE FIRE CHIEF'S HANDBOOK

By FRED SHEPPERD

Gives a practical, authoritative answer to almost every question that might come up in modern fire fighting practice.

A valuable reference guide for the progressive fire chief, and for the fire fighter studying for promotion.

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"HAHN" FIRE APPARATUS
SINCE 1907

FINEST IN THE WORLD * STREAMLINED * BALANCED CHASSIS * AMPLY POWERED * VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.
HAMBURG, PA.

CRACKERJACK FIRE HOSE

TOPS SINCE 1907 for reliability

The AMERICAN RUBBER Mfg. Co.
Park Avenue and Watts Street • Oakland, Calif.

—and Ventnor

A Navy aerial bomb struck a three-story building in Ventnor (N. J.) with a loud explosion, at 9:06 of an August morning with a loud explosion which aroused a dozen or more families. It tore away a two-foot square piece of heavy metal cornice which was hurled eighty feet across Ventnor Avenue almost into St. John's Reformed Episcopal Church. Fortunately, nobody was injured and no fire resulted.

* * *

Nazis Smoke Themselves Out!

Another case of "smoking 'em out" comes from Ankara (Turkey) and tells about the German Consulate at Izmir (Smyrna) which, before the break in Turkish Nazi relations was one of the "hot spots" of the Nazi intelligence. Seems the Consul had so many papers to burn before hitting the road that he set the consulate afire. The story relates further, that the local fire department arrived without request from the Germans for help and, refused admittance, the firemen "put out the fire in the three-story wooden structure from neighboring buildings"; which makes interesting reading even if you question how it was done!

Well, that's one way to burn important documents—take the house with it, like the Chinese used to do when they wanted roast pig!

* * *

Flame Thrower Unit Needs Him

Residents of apartment house in the Bronx (N. Y. C.) rubbed their eyes when they found Robert Bruce Campbell, 42, the Bronx, sitting in the hallway placing lighted matches under the door of a vacant flat. Then they called the cops.

Campbell, railroad worker, 18 months out of the Army, told the Magistrate he thought a man he knew lived in the apartment—a man who had walked out of a saloon with $10 of his money, and he was "trying to smoke him out." He was held on bail for $3,000, which is a pretty expensive smoke, says we.

* * *

Comfort to Hitler-Hirohito

Fire losses continue to mount. August was a tough month for the fire service. What is ahead may be equally bad, because of the prolonged drought. Here are some of the outstanding fires which, because of their relation to the war effort, gave comfort to our enemies:

MARCUS HOOK, PA.: Blazing fumes spread through an underground piping system at the new $13,000,000 high-octane gasoline refinery of the Sun Oil Company, after an explosion blew out windows and almost ruined the compression building. Burning vapor escaping from vents covered large areas. Three Sun Oil employees crossing danger zone in a truck were caught in sudden burst of flame and badly burned.

The explosion occurred when some liquid butane gas was being drawn from one of the spheroid containers into the compression system. Raleigh Heacock, chief marshal of the company's fire department, said employees ran to the valves to shut off the other spheroids. The liquid butane, kicked back into the sewerage system of the plant, volatized, sending out inflammable fumes through all the open vents. A passing automo-

bile's backfire set fire to one of the pockets of fumes. No estimate of damage but the compressing apparatus was virtually wrecked.

BRIDGEPORT, CONN.: Early morning fire destroyed two brass, bronze and metal manufacturing plants with damage estimated by Fire Chief Martin J. Hayden at more than $200,000 and for a time threatened residential area in which the seaside village housing project is situated.

MARIETTA, OHIO: Fire swept third floor of Remington-Rand, Inc. causing damage estimated at $100,000 to $200,000 and injuries to several members of Marietta Fire Department. Fire was fed by five ovens estimated to be about 100 feet in length, ignited tons of kardex paper used for files which were being processed in the ovens. Marietta firemen aided by the Williamstown, Ohio, Department, and local auxiliary and volunteer firemen, fought the blaze for four hours.

CLEVELAND, OHIO: Company officials and representative of Chemical Warfare Service are investigating cause of spectacular fire at National Smelting Company, which was destroyed in the blaze with loss of $500,000 and another possible $150,000 to materials. Burning magnesium set off explosions and huge columns of green, white and orange smoke. Seventeen fire companies fought blaze for about seven hours. Tight censorship by Government officials clamped down on details of the fire.

PHILADELPHIA, PA.: Only a few minutes after firemen had successfully fought a two-alarm fire in another section of the city, they were called on to battle five alarm blaze that raced through receiving pier of Pennsylvania Sugar Refining Company on the Delaware River. Twenty-eight firemen were treated for injuries. Danger of spread to the big sugar refinery and to stills of the Pennsylvania Alcohol and Chemical Company necessitated sounding multiple alarms. Firemen, beset by intense heat fought fire stripped to waists. In the smoke a fire boat narrowly escaped ramming a Coast Guard boat.

* * *

Bees Outdo Buzz-Bomb

Passengers leaving a train in Southern England flopped hurriedly to the sidewalk as they saw a buzz-bomb falling 300 feet away. The bomb exploded and they arose, congratulating themselves on their escape. Suddenly they got another "buzz" attack. This time it was a swarm of angry bees whose hives had been overturned by the blast of the real article. Total casualties were reported as "two men stung".

* * *

Japs Order More Fire Engines

The Japanese Ministry of Munitions, headed by Premier Gen. Hideki Tojo, has ordered the production of "air-defense fire engines" speeded up ahead of schedule because of the "acute situation that has developed" sez the Tokio radio in a domestic broadcast picked up by U. S. Governmental monitors. The broadcast said that related industries had been urged "to understand the importance of fire engines and to take co-operative measures". (Thanks, J. K.)

Amazing Device Makes Wheels *PULL!*

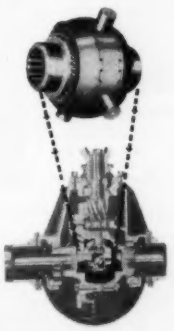
If your fire apparatus must travel off of paved roads, up hills, through snow, deep sand, mud, gravel or over ice, then look into this THORNTON Automatic-Locking DIFFERENTIAL.

Spinning of one wheel which normally stalls a vehicle in conditions mentioned above, *never* occurs when this Automatic DIFFERENTIAL is installed . . . because both wheels must rotate when power is applied.

Models readily available for the following 1½-2 ton single axle trucks: Chevrolet, Ford, G.M.C., International, Reo, Studebaker.

If you want traction and action, investigate our features and advantages today. Write . . . wire . . . or telephone.

THORNTON *Automatic-Locking* DIFFERENTIAL



Available with Limitation Order Certificate L-158

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8753-E GRINNELL AVENUE
Plaza 9700
DETROIT 13, MICHIGAN

Make Big Trucks Out of Little Ones with the THORNTON *Four-Rear-Wheel* DRIVE

In U.S.: Sold by TRUCKSTELL DISTRIBUTORS
In Canada: H. V. WELLES, LTD., Windsor, Ont.

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Please send me data on your *Automatic-Locking* Differential.

Name .....
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Make and Model ..... *Year* .....

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Recognized by the Fire Service as Standard

Questions and Answers for Lieutenant and Captain—$2.50
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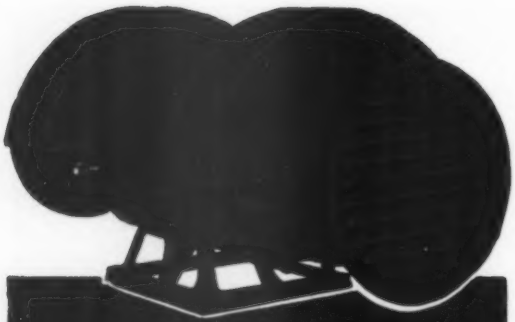

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GENERAL ALARM SIREN

You Can Depend On It ALWAYS

An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to instal and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M".

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STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

This emblem, which identifies one of the Nation's most complete lines of department supplies, is known and respected wherever fire fighting equipment is used. It is the mark of thoroughly sound design and extremely high quality.

ELKHART BRASS MANUFACTURING CO. Inc.
Elkhart, Indiana

Seven Buildings Fired as Gas Tank Truck Explodes

Running wild after flames forced the driver to leap for his life at 3:40 A. M. on August 4, a gasoline tractor-trailer truck, loaded with 3,500 gallons of fuel, crashed against a pole at the foot of the steep Glenway Avenue hill at Eighth street in Cincinnati, Ohio, and exploded.

Flaming gasoline ignited four buildings, scorched the fronts of three others and forced twenty-two men, women and children to flee for their lives. Three persons suffered injuries or burns.

Five alarms of fire were sounded by Chief Barney Houston and his assistants before the flames were brought under control. The first alarm was pulled at 3:40 a.m. from Street Box 5122, two blocks from the fire. The second alarm was sent in at 3:44 a.m.; the third at 3:46 a.m., and a combination fourth and fifth at 3:48 a.m.

Occupants of the buildings were aroused by the crash and ran to windows to face flames shooting as high as the second floor and stretching completely across Eighth Street. All fled down rear stairways to escape.

At the height of the flames, sewers in the vicinity began exploding, imperiling those who fled from the buildings. Heavy manhole covers were hurled fifty feet in the air and rained down among them. Firemen reported gasoline seeping into the sewers caused the explosions.

Buildings damaged in the blast were the Price Hill Incline Company, the Hollander Building, the plumbing shop of the William Hillenbrand Company, and the Nicholas Grippo Grill. The latter two buildings were scorched, while the others suffered severe interior and exterior damage. The Hollander Building, which is made up of three structures, was occupied by the Westside Baptist Church, which was destroyed with its equipment, and a number of apartments.

Radio Proves Invaluable

Two patrolmen operating a police cruiser saw the crash and were credited with saving the lives of the occupants of many of the buildings. They immediately radioed an alarm of fire as they speeded to the scene. Flaming gasoline was then already spreading over the neighborhood.

Leaping from their cruiser, the officers braved the flames to enter the flaming buildings. Mounting stairs, they pounded on doors, arousing those occupants who had not been awakened by the crash and explosion. All were guided down rear stairways.

Marshal Alex Blackburn responded to the first alarm. He saw the flames half a mile away and radioed the second alarm. Reaching the scene, he radioed the third alarm without leaving the vehicle. Chief Houston ordered the fifth alarm as he raced to the scene. The extra alarms were handled by Operators Pat Holz and Thurston Chamber.

Assisting Chief Houston and Marshal Blackburn were Acting Assistant Chief Harry McNay, Assistant Chief Edward Shearwood and Marshals Robert Williams, Richard Spelman and Louis Purcell.

The driver of the truck had been descending the Glenway Avenue grade in second gear. As he passed the intersection of Warsaw Avenue, a few hundred feet from the scene of the fire, he dis-

covered flames shooting up from the rear of his cab. He pulled towards the curb and set the emergency brake, thinking that he could halt the truck. Flames forced him to leap. The truck continued on down the hill.

Tank Ruptured in Several Places

Before the final crash the tractor-trailer mounted the curb, snapped off a fire plug, broke a boulevard light pole and bent over a trolley wire pole. It came to a halt on the sidewalk directly in front of the incline plane building and exploded. The vehicle was "jack-knifed" when firemen were able to examine it. The huge tank was ruptured in several places permitting the gasoline to escape.

Firemen battled the blaze by two methods. Spray nozzles were used to smother the flaming gasoline and truck. Heavy, direct streams were played on the blazing buildings.

July Fire Losses Were Highest in Twelve Years

Fire losses in the United States in July were estimated at $32,706,000, the highest for any July since 1932 when they totalled $32,982,000, it was recently announced by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters.

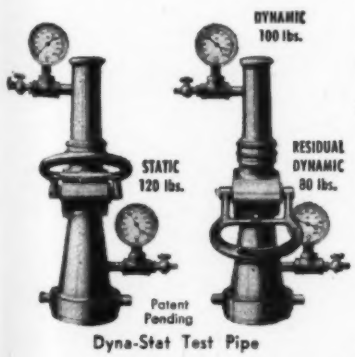
The July losses were $7,690,000 or thirty-one per cent higher than losses in July, 1943, and $2,151,000 or seven per cent above losses for June of this year. The Board's estimates are based on incurred losses reported by member companies, plus an allowance for uninsured and unreported losses.

Losses in the twelve months' period ended July 31 were estimated at $411,463,000 as compared with $338,887,000 for the year ended July, 1943.

Manufacturers' Announcements

Dyna-Stat Takes Guesswork Out of Water Pressure

Vulco Products Co. of New York City, announce a new device that indicates dynamic as well as static pressure. Static pressure indicates line or hydrant pressure, whereas this device also indicates the amount of water actually being delivered at the nozzle. The device is made in five sizes.



Dyna-Stat Test Pipe

Hose-Drying is Easy with

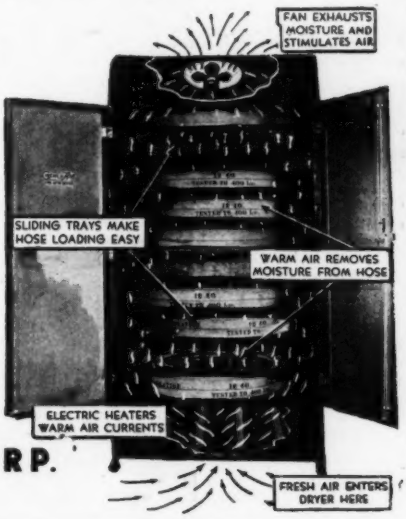
CIRCUL-AIR

THE AIR CONDITIONING
FIRE HOSE DRYER

Electrically-operated, the CIRCUL-AIR dries hose in a very few hours—25 to 50 times faster than a tower or a rack. Makes wartime fire hose last longer. By prolonging the life of hose now in service and, by quick drying, lessening the need for large hose reserve for "reloads" while wet hose is drying, CIRCUL-AIR helps to build up the Nation's rubber stock pile.

Preferred by Fire Chiefs because it:

- Prevents mildew and rot
- Saves drying time
- Eliminates towers
- Is easier to use
- Reduces hose stretch
- Improves building design
- Air-conditions as it dries
- Saves space, work, time and critical materials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SLIDING TRAYS MAKE HOSE LOADING EASY
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FRESH AIR ENTERS DRYER HERE

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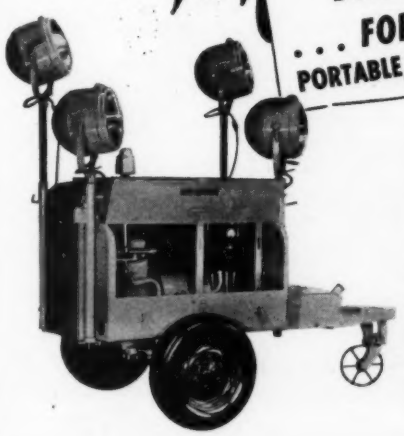
320,000 CANDLE POWER OF LIGHT
The NITE-HAWK
. . . FOR NIGHT FIRE FIGHTING
PORTABLE, ENGINE DRIVEN POWER PLANT



Towed at truck or auto speed, this self-generating power plant goes to the fire with you — gives you ample light for fighting night fires. Four 1,000-watt, 80,000 candle power, wide-angle floodlights provide an even flow of light over a wide area. Each light individually operated and adjustable up and down, and in all directions. Lights may be removed and taken into building on extension cords and tripods. Also, a control panel with receptacles gives you power at 110 volts for operating electric tools, like saws and metal cutters. This Nite-Hawk is also available with two 80,000 candle power floodlights and a 7 million candle power searchlight. Write for Bulletin NH5E.

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Circular creel feeds cords to one of Eureka's Multiple-Weaving Looms. This specially designed loom gives to the jackets of Eureka Fire Hose the perfect balance *essential to uniform high quality.*

In fire hose, *balanced weaving* is a factor of prime importance. It eliminates excessive writhing, twisting and elongation when hose is subjected to pressure at the scene of action.

Eureka's *BALANCED WEAVE* results in a stronger . . . safer . . . and more trustworthy hose for use under the most hazardous conditions.

"For greater protection to life and property"

EUREKA FIRE HOSE

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SEPTEMBER, 1944

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Seconds count... power counts... safety counts when fires rage. And the reason FWD fire apparatus counts so big in successful fire fighting is that every FWD has plenty of *reserve* speed, power, traction and safety to meet any emergency in getting to the fire and doing its vital part in the fighting business. No grade is too steep, no mud or snow too deep, no road too slippery, no going too tough for the dependable combination of speed - power - traction - safety which FWDs' offer. Their fire-fighting records in cities and towns from coast to coast warrant your confidence in the complete line... all types and sizes, with rotary or centrifugal pumpers, triple or quadruple combinations, aerials, etc.... and POWER on All-wheels! Write for literature.

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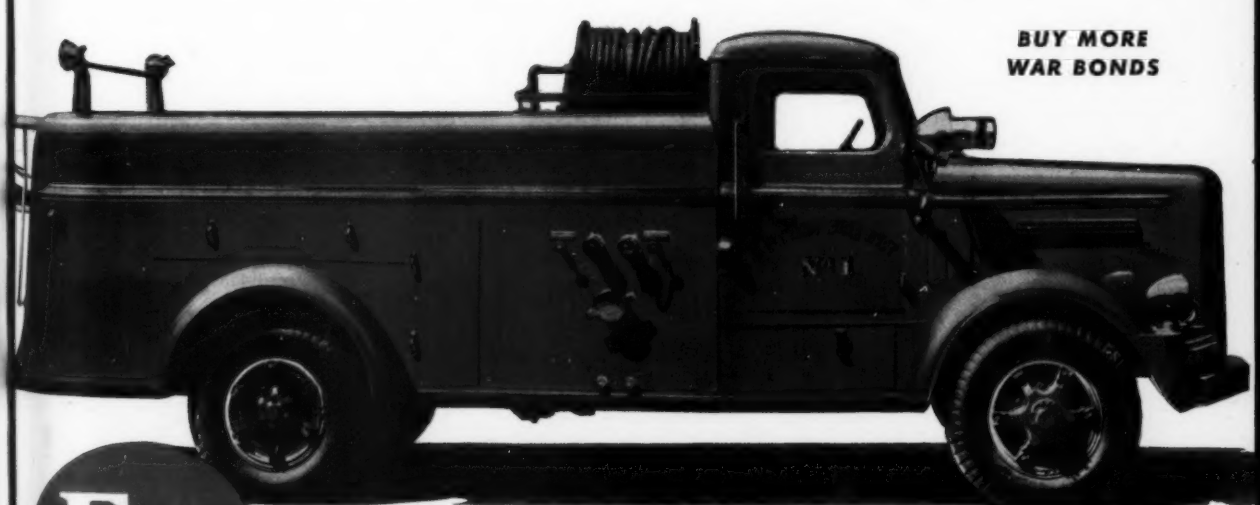

The City of Shawano, Wis. enjoys Fire Protection from this FWD Model KHR, 750 GPM 2-stage centrifugal pumper and chemical fire fighter.

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LIMIT YOURSELF WITH OLD-FASHIONED METHODS...

USE MODERN METHODS FIGHT FIRE WITH FOGNOZL

Available in sizes for chemical and regulation fire hose

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